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LIST OF OFFICERS AND PLACES OF MEETING SINCE THE ORGANIZATION OF THE SOCIETY.

YEAR.	PRESIDENT.	VICE-PRESIDENT.	SECRETARY.	TREASURER.	PLACE OF MEETING.
1850*	Rudolphus Rouse		Edwin G. Meek		Springfield.
1850	William B. Herrick	Rudolphus Rouse	Edwin G. Meek	John A. Halderman	Springfield.
1851	Samuel Thompson	E. McArthur	H. Schoemaker	E. Rouse	Peoria.
1852	Rudolphus Rouse	Thomas Hall	E. S. Cooper	Edward Dickenson	Jacksonville.
1853	Daniel Brainard	C. N. Andrews	H. A. Johnson	A. B. Chambers	Chicago.
1854	C. N. Andrews	Samuel Thompson	H. A. Johnson	N. S. Davis	La Salle.
1855	N. S. Davis	E. R. Roe	E. Andrews	J. V. Z. Blaney	Bloomington.
1856	H. Noble	T. D. Washburn	N. S. Davis	J. V. Z. Blaney	Vandalia.
1857	C. Goodbreak	A. D. McArthur	H. A. Johnson	J. V. Z. Blaney	Chicago.
1858	H. A. Johnson	William Lyman	N. S. Davis	J. W. Freer	Rockford.
1859	David Prince	H. W. Davis	N. S. Davis	J. W. Freer	Decatur.
1860	Wm. M. Chambers	T. K. Edmiston	N. S. Davis	J. W. Freer	Paris.
1863	A. McFarland	A. H. Luce	N. S. Davis	J. H. Hollister	Jacksonville.
1864	A. H. Luce	J. M. Steele	N. S. Davis	J. H. Hollister	Chicago.
1865	J. M. Steele	F. B. Haller	N. S. Davis	J. H. Hollister	Bloomington.
1866	F. B. Haller	L. T. Hewens	N. S. Davis	J. H. Hollister	Decatur.
1867	S. W. Noble	D. W. Young	N. S. Davis	J. H. Hollister	Springfield.
1868	S. T. Trowbridge	J. O. Hamilton	N. S. Davis	J. H. Hollister	Quincy.
1869	S. T. Trowbridge	J. O. Hamilton	N. S. Davis	J. H. Hollister	Chicago.
1870	J. V. Z. Blaney	G. W. Albin	T. D. Fitch	J. H. Hollister	Dixon.
1871	G. W. Albin	John Murphy	T. D. Fitch	J. H. Hollister	Peoria.
1872	J. O. Hamilton	T. Worrell	T. D. Fitch	J. H. Hollister	Rock Island.
1873	D. W. Young	T. D. Washburn	T. D. Fitch	J. H. Hollister	Bloomington.
1874	T. F. Worrell	E. L. Holmes	T. D. Fitch	J. H. Hollister	Chicago.
1875	J. H. Hollister	Wm. P. Pierce	T. D. Fitch	Wm. E. Quine	Jacksonville.
1876	T. D. Washburn	J. L. White	T. D. Fitch	J. H. Hollister	Urbana.
1877	T. D. Fitch	S. H. Birney	N. S. Davis	J. H. Hollister	Chicago.
1878	J. L. White	E. P. Cook	N. S. Davis	J. H. Hollister	Springfield.
1879	E. P. Cook	J. S. Whitmire	N. S. Davis	J. H. Hollister	Lincoln.
1880	Ephriam Ingals	G. W. Jones	N. S. Davis	J. H. Hollister	Belleville.
1881	G. W. Jones	William Hill	S. J. Jones	J. H. Hollister	Chicago.
1882	Robert Boal	A. T. Darrah	S. J. Jones	J. H. Hollister	Quincy.
1883	A. T. Darrah	L. G. Thompson	S. J. Jones	J. H. Hollister	Peoria.
1884	E. Andrews	D. S. Booth	S. J. Jones	Walter Hay	Chicago.
1885	D. S. Booth	S. C. Plummer	S. J. Jones	Walter Hay	Springfield.
1886	William A. Byrd	W. T. Kirk	S. J. Jones	Walter Hay	Bloomington.
1887	William T. Kirk	Elias Wengen	D. W. Graham	Walter Hay	Chicago.
1888	William O. Ensign	C. W. Earle	D. W. Graham	Walter Hay	Rock Island.
1889	C. W. Earle	P. H. Oyler	D. W. Graham	T. W. McIlvane	Jacksonville.
1890	John Wright	L. P. Mathews	D. W. Graham	T. W. McIlvane	Chicago.
1891	John P. Mathews	Charles C. Hunt	D. W. Graham	George N. Kreider	Springfield.
1892	Charles C. Hunt	E. F. Ingals	D. W. Graham	George N. Kreider	Vandalia.
1893	E. Fletcher Ingals	Otho B. Will	D. W. Graham	George N. Kreider	Chicago.
1894	Otho B. Will	D. R. Brower	J. B. Hamilton	George N. Kreider	Decatur.
1895	Daniel R. Brower	A. C. Corr	J. B. Hamilton	George N. Kreider	Springfield.
1896	D. W. Graham	J. M. G. Carter	J. B. Hamilton	George N. Kreider	Ottawa.
1897	A. C. Corr	J. M. G. Carter	J. B. Hamilton	George N. Kreider	East St. Louis.
1898	J. M. G. Carter	T. J. Pitner	E. W. Weis	George N. Kreider	Galesburg.
1899	T. J. Pitner	H. N. Moyer	E. W. Weis	George N. Kreider	Cairo.

*Preliminary Convention.

EXPLANATION.—No meeting was held in the years 1861 or 1862, "on account of the large number of members engaged as surgeons in the volunteer army of the United States."

Until the meeting of 1869, it was the custom to elect officers the first day, and for the President to have charge of the meeting at which he was elected. Hence Dr. Trowbridge seems to have presided over two meetings, although elected President but once.

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THERAPEUTICS: PAST, PRESENT AND FUTURE.

BY GEORGE F. BUTLER, M. D., CHICAGO.

[Address of Section I.]

The History of Medicine during the early epoch which marked the awakening of scientific thought is enveloped in baffling obscurity, myth and tradition of necessity supplying the place of more intelligent investigation. Notwithstanding perplexities, however, it is of profound interest to the modern student to trace the far distant sources of therapeutic knowledge, examine attentively the gradual development of the healing art, and in the brilliant achievements of the nineteenth century, recognize only the flower and fruitage sprung from seeds of progress implanted in the human mind in remote ages—yes, even in the dawn of civilization. Moreover, the retrospective study of medical science can but enhance our veneration for the struggling intellect of man, and enable us to form a more adequate conception of the patience and labor which have marked the evolution of the physician's attainment.

Such considerations occur to one who looks deeply into the annals of the past, striving to discern, so far as existing records permit, the earlier status of Therapeutics.

It has been philosophically remarked that "The progress during the present century, familiar to all, has been marked by the employment of inductive methods of reasoning in the departments of physiology, pathology and clinical medicine. By the results of such methods and the development of a scientific habit of thought, the science of medicine, which is that of physiology in its broadest sense, the physiology of health as well as the physiology of disease, including the effects of drugs, can well fill its minor place in the science of biology. The old cry of the uncertainty of medicine, the unscientific character of the art of medicine, cannot be held up to us. No Montaigne can at this day hurl the shafts of ridicule and satire that stung to the quick and stimulated honest doubt in the sixteenth century. Well do we know, ourselves, our limitations as well as our power, and with becoming modesty do we uphold the claims of medicine as a science. If science is "knowledge gained by systematic observation, experiment and reasoning; knowledge, co-ordinated, arranged and systematized," well fortified is he with cynicism who has the hardihood to maintain the contrary."

The many achievements which have established the present advanced status of medicine are too familiar to require detailed rehearsal. The study of pathology has attracted new and world-wide attention, accompanied by wholly unprecedented results and a skill in scientific investigation of incomparable value to mankind. A greater knowledge of etiology, a larger comprehension of the systematic rationalism of the times, and a more rigid adherence to the scientific truths revealed by practical observation, have served to place the medicinal art upon a loftier plane of human understanding. Our century opened with a sound preference for inductive research over the less valid generalizations of the past. Virchow, Cohnheim, Koch, Lister, Pasteur, Bernheim, Kitasato and hosts of other ardent investigators have deftly explored the arcana of chemical, physiologic and biologic research. Specialists of remarkable acumen have revealed to an astonished world secrets of nature which may be, and indeed are now, of vast importance to the welfare of mankind. Foremost among the new and startling discoveries must be regarded the mysterious yet indubitable effects produced by antitoxins,

and their influence upon certain infectious diseases. A consideration of the matter is therefore pertinent.

Great progress has been made during the past year in the field of serum-therapy, though much remains open to question, and many things cannot yet be explained. The field for the investigator is perhaps larger than ever before. For a better understanding of the antitoxins and their therapeutic application, a few essential facts should be borne in mind. An antitoxin is not the direct result of bacterial action, but is properly described as an unknown body resulting from the resistance of healthy organism to the toxins of pathogenic bacteria. In practice this antitoxic body comes to us in the blood serum of animals, usually the horse. When properly prepared and properly kept in aseptic containers, the antitoxins are not at all dangerous; in fact, are as innocuous as an equal amount of blood serum or normal salt solution, administered in the same way. We use antitoxins to resist the effects of infection with pathogenic bacteria because the results of such infection are due to the toxins elaborated by those bacteria, and not to the bacteria themselves. The antitoxins do not destroy the bacteria, in other words, are not germicides. In fact, the antitoxic serums are themselves good culture media. One theory of their action is that they neutralize the toxin, thus giving the natural bacterial powers of the body an opportunity to exercise their function.

The following brief description of the process employed in the laboratory of Parke, Davis and Company will, I trust, show that I am justified in the above definition of an antitoxin.

Young horses in perfect condition are selected and kept under careful observation by an expert veterinarian for three or four weeks. Temperature is taken three times a day for two weeks, and during this time they are carefully tested with Mallein for glanders. When a horse is found to be perfectly healthy, he is taken into the stables with the other antitoxin horses, and there receives his first dose of diptheria poison, or more properly a solution of the toxin of the Klebs-Lœffler bacillus. This is obtained in the following manner: A culture is obtained from the throat of a patient suffering from a virulent attack of diphtheria. The Klebs-Lœffler is isolated from this culture and planted in a flask of bouillon, which is kept in an incubator for ten days. At the end of this time it has attained its maximum toxicity, and the bacteria begin to die of their own poison. The toxin which they have elaborated in the course of their existence is held in solution by the beef tea, Trikresol added. This bouillon solution of toxin is then filtered through porcelain to remove the bacterial cells and any other extraneous matter. It is then ready for injection into the horse. About one-tenth of one c. c. is injected subcutaneously. The horse responds with all the constitutional symptoms of diphtheria such as a chill, fever, loss of appetite, more or less pharyngeal paralysis with regurgitation of food, and occasionally death of heart paralysis. Upon recovery, which comes within a few days, he is given a slightly larger dose. This treatment is continued for about one year, when he will take from 2,000 to 3,000 times the initial dose without reaction. He is then ready for bleeding. About 6,000 c. c. of blood is drawn from the external jugular vein. This is allowed to clot, and the serum obtained is what is known commercially as antitoxin. Cultures are made from this for the detection of any possible contamination. If there is no contamination present, it is siphoned off into the glass bulbs, in which it appears in the market, first having 0.4 per cent. Trikresol added. After standing a few days to allow the development of bacteria, should any be present, cultures are again carefully made, and if these show presence of bacteria in the serum, the whole lot is destroyed. If it is free from contamination, it is ready for the market.

In making the streptococcus antitoxin a culture is made of bacteria obtained from two sources—erysipelas and puerperal sep-

ticemia. This is done because Marmorek, Paltauf and some other eminent bacteriologists believe that streptococci of various infections belong to different families—that the streptococcus of erysipelas is not identical with the streptococcus of puerperal fever. It is but fair to say that others equally eminent do not hold this view. To cover this point, the cultures obtained from the two sources are used. Its virulence is increased by passing it through rabbits. After passing through about fifty rabbits, a culture is planted in beef tea, and the same course pursued as for diphtheria antitoxin. Anti-tubercle serum is obtained by immunizing horses with the original Koch's tuberculin.

In support of the proposition that the symptoms in infectious diseases are due to the toxins elaborated by the bacteria and not to the bacteria themselves, the following quotation from the last edition of Sternberg's Manual of Bacteriology is given: "Certain saprophytic bacteria, when injected beneath the skin of a susceptible animal, multiply at the point of inoculation and invade the surrounding tissues, giving rise in some instances to the formation of a local abscess, in others to an infiltration of the tissues with bloody serum, and in others to extensive necrotic changes. These local changes are due not simply to the mechanical presence of the micro-organisms which induce them, but to chemical products evolved during the growth of these pathogenic bacteria. Indeed, their pathogenic power evidently depends, in some instances at least, upon these toxic products of their growth, by which the vital resisting power of the tissues is overcome. Other bacteria, while they develop chiefly in the vicinity of the point of entrance—by accident or by inoculation—produce a potent toxic substance which gives rise to the general symptoms of a serious character, such as tetanic convulsions (bacillus of tetanus), or intense fever and nervous phenomena (micrococcus of erysipelas). The pus cocci and various other saprophytic bacteria, when introduced beneath the skin, give rise to the inflammation of abscesses, unattended by any very considerable general disturbance; and also to secondary purulent accumulations—metastatic abscesses.

"That this is not due simply to their mechanical presence is shown by the fact that powdered glass and other inert substances, when thoroughly sterilized, do not give rise to pus formation when introduced beneath the skin or when injected into the cavity of the abdomen. On the other hand, it has been demonstrated by the experiments of Grawitz, De Bary and others, that certain chemical substances which act as local irritants when brought in contact with the tissues may induce pus formation quite independently of micro-organisms; nitrate of silver, oil of turpentine, and strong liquor ammoniæ have been shown to possess this power. And it has been demonstrated by the recent experiments of Büchner that sterilized cultures of a long list of different bacteria—17 species tested—give rise to suppuration when introduced into the subcutaneous tissues.

"In diphtheritic inflammation of mucous membranes we have a local invasion of the tissues and a characteristic plastic exudation. In true diphtheria the local inflammation and necrotic changes in the invaded tissues are not sufficient to account for the serious general symptoms, and we now have experimental evidence that the diphtheria bacillus produces a very potent substance to which these symptoms are no doubt largely due. The diphtheria bacillus of Lœffler appears to be the cause of the fatal malady which goes by this name, but undoubtedly other micro-organisms may be concerned in the formation of diphtheritic false membrane."

In addition to this valuable information afforded us by Dr. Sternberg, additional evidence as to the correctness of this conclusion is the fact that horses, while being immunized, give the classical constitutional symptoms of each disease though they are treated with the filtered toxin which contains no bacteria whatever. A possible ex-

ception may be made of anthrax, though Sternberg distinctly states that it acts in the same way.

As to the therapeutic action of antitoxin, little or nothing is known positively. It seems reasonable to conclude from experimental evidence that the antitoxin neutralizes the toxin in the body, and thereby gives the natural germicidal powers an opportunity to dispose of the bacteria. It may be that it has the additional property of stimulating the phagocytic and possibly other bactericidal functions. The following experiments made by Messrs. Martin and Cherry in England, and described in an editorial in the Journal of the American Medical Association, of August 27th, 1898, will be of interest in this connection. Behring, Ehrlich and Kanthack have advocated the theory that the antagonism between toxins and antitoxins is a chemic one, somewhat analogous to the neutralization of an acid by an alkali, while Büchner, Metchnikoff and others have maintained that it is indirect and operates through the cells of the organism. Martin and Cherry used a snake venom antitoxin. A considerable number of guinea pigs were used. At 68° C. the antitoxin was destroyed, while the venom retained its virulence. In the control experiment with the venom only, all the animals died within a few hours. A number of mixtures were made of 1 c. c. of antitoxin with twice the fatal dose of venom; others with three and four times the fatal dose. These mixtures were allowed to stand at the usual laboratory temperature (20° to 23° C.) for 2, 5, 10, 15 and 30 minutes respectively, and then heated to 68° C., and then injected.

As above remarked, this heat destroyed the antitoxin so that none was injected. The animals subjected to the mixture of the stronger doses of 10 minutes or less died, or were seriously affected; all of those receiving the 15 minute mixtures survived, while the 30 minute mixtures produced no symptoms whatever. Similar results were obtained with diphtheria antitoxin and toxin. These experiments seem to show as far as anything can that the neutralization of toxins may occur in the test tube, and that the vital processes in the organism and the body cells are not essential. These gentlemen made further experiments by passing a mixture of toxin and antitoxin through a film of gelatin on a Pasteur-Chamberlain filter. This was porous for toxin, but not for antitoxin, owing to the difference in the size of their molecules. The toxin which passed through the filter, after having been mixed with antitoxin, was neutral. The unavoidable conclusion from this experiment is that the toxin was neutralized before filtration.

Further experiments were made to prove their theory that toxins are albumoses and antitoxins globulins, but their experiments do not appear to be conclusive.

The supposition that the administration of antitoxin is followed by a stimulation of the germicidal powers of the body seems to be reasonable, at least in the case of the anti-streptococcic serum, since the streptococci disappear with the passing away of the signs and symptoms. On the other hand, the Klebs-Lœffler bacillus is found in the throat for weeks and even months after the disappearance of all symptoms of diphtheria in cases treated with the antitoxin.

The present status of diphtheria antitoxin may be presented in a few words. It has established itself as a specific in the treatment of this disease. During the past year the use of larger doses has become more general, and it seems certain that better results are obtained. The administrators of the Chicago Department of Health give 2,000 units in all cases of suspected diphtheria, and employ 1,000 units as an immunizing dose. During the months of November and December, this department treated 219 cases of bacteriologically proven diphtheria, all charity cases, with a death rate of 4.1 per cent. Some two and a half years ago when antitoxin was not used the death rate from diphtheria treated by this department was about 35 per cent.

A considerable number of reports have

been published showing good results in the use of diphtheria antitoxin in other diseases, as asthma, acute bronchitis, etc. Its favorable action in these conditions cannot be satisfactorily explained. Dr. McClintock says that possibly the natural immunity of the horse against these diseases will account for the favorable action of his blood serum in these diseases. In other words, Dr. McClintock thinks its therapeutic action in these conditions is due to the blood serum, and not to the diphtheria antitoxic body present in the serum.

Antistreptococcic serum gives promise of being second only to the diphtheria antitoxin in point of therapeutic value. It has been most successful in erysipelas and puerperal septicemia. Cases of scarlet fever are reported where it has been useful in shortening the duration of the disease, and in preventing unfortunate complications and sequelæ, such as otitis media and other suppurative processes due to streptococci.

A valuable contribution to the literature on this antitoxin was made by Dr. W. L. Baum, of Chicago, and published in the January number of *Medicine*. A perusal of this essay will repay anyone interested in the antitoxin treatment of disease. Dr. Baum reports 22 cases coming under his observation in which the serum was used. "Of these, 19 were cases of erysipelas; one of erysipelas plus tubercular nuchal glands, and of erysipelas with puerperal septicemia and double labial abscess. The last was the only fatal case. In 4 of the cases of erysipelas only one injection of the serum (10 c. c.) was used, with a reduction of temperature to the normal within twenty-four hours; no relapse. In 6 others four injections of 10 c. c. each were given upon consecutive days, with a rapid recovery on the fifth day; no relapse. In 3 the injections were followed by a reduction in temperature within twenty-four hours, but relapsed at intervals of from three to six days. In all of these cases the serum was again used. In one, repeated injections seemed to exercise no effect upon the temperature, and the treatment was followed by sponging, which seemed more effective. The others were old cases in which there had been a marked tendency to relapse; in these not only was the temperature reduced, but the cases showed rapid improvement and recovery.

"During this time many other cases of erysipelas were under treatment at the hospital, but an effort was made to select those cases which were characterized by high temperature or complications."

Dr. Baum also speaks of Baginsky's report of results in 48 cases of scarlatina, in which antistreptococcic serum was employed. In 27 the course of the disease was unusually favorable, the majority recovering without complications. A striking feature in all was the rapid reduction of temperature. In exceptional cases albumin appeared and a single case had nephritis with tube casts and blood corpuscles. In a second group of cases of a severe type the results were not so favorable, although it is possible that in these the amount of serum employed was insufficient. Among the whole number of cases there were seven deaths, or 14.6 per cent., which compares favorably with the percentages (between 22.6 and 24.4) in the years from 1890 to 1895. The mortality among cases treated by other means during the same epidemic as that in which the serum was employed was 24.9 per cent. The untoward effects of the injections were similar to those observed after injections of diphtheria antitoxin. The future for this serum in the treatment of chronic phthisis is bright with hope. We are told that in the majority of cases simple uncomplicated tuberculosis of the lungs is not a dangerous disease—that it is the added infections, such as streptococcic, staphylococcic, the yeast fungus and others that kill. Dr. Robert Reyburn, of Washington, D. C., makes the statement that the vast majority of persons over sixty years of age who die from any cause have had tubercular deposits in their lungs. The fact that post-mortem examinations in public hospitals and other public institutions show tubercular lesions in the ma-

jority of subjects, would indicate that tuberculosis in the lungs is usually a self-limited disease. Of these complications the most frequent, and probably the most important, are the streptococci. In a few cases where the antistreptococcic serum has been used the reports have been almost uniformly favorable. However, its value is not by any means demonstrated.

It is to be regretted that tetanus antitoxin does not in clinical use do all that it will do in the laboratory. It has been used in a considerable number of cases, but in nearly every instance without any result that would justify us regarding it as a great curative agent. However, it should be used early in every case of tetanus, and in large doses, because it is, like the other serums, harmless, and the patient has a somewhat better chance for recovery. Not until our means of diagnosis have been improved by bacteriological methods or otherwise can we expect great results from the tetanus antitoxin. The following explanation for inefficacy of this antitoxin has at least the merit of originality on the part of its author, and some plausibility: "The toxin of the bacillus tetanus has a chemical affinity for nerve tissue, and enters into chemical combination with and destroys such tissue, and it is this chemical combination and destruction in the nerve centers which produces the tetanic convulsions. The antitoxin has no such chemical affinity and neutralizes only that toxin remaining in the blood current, and of course it can not repair the nerve tissue lesion. When we are able to diagnose tetanus early, the antitoxin will be used successfully. One or two cases have been successfully treated with intra-cerebral injections of antitoxin, the theory being that the antitoxin should be placed where it could neutralize the toxin which is producing the convulsions by means of its action on the nerve centers. The value of this method of administration has not been proven fully, as many cases have been treated unsuccessfully."

As a preventive measure, the tetanus antitoxin is all that can be desired. Dr. Joseph Hughes, one of the most eminent and conservative veterinary surgeons in Chicago, says that he has used the tetanus antitoxin as a prophylactic in over 500 cases following wounds both surgical and accidental. Not one has developed the disease, though he has used it where he was justified by former experience in expecting tetanus to show itself. Dr. Hughes used 10 c. c. as a protective dose, and injects it five to seven days after the suspected inoculation.

The time has come when it is the duty of every railroad company to authorize the use of this serum as a prophylactic by its surgeons. It should be used by every surgeon treating wounds liable to be infected with the bacillus tetanus. It costs a very small amount of money to protect a man absolutely against this terrible condition.

The anti-tubercle serum has not proven itself of more value than a great number of other remedies vaunted as a specific in this disease. Maragliano, of Italy, continues to send encouraging reports, and has recently erected a tuberculosis hospital in or near Rome where his antitoxin is to be used. It must be confessed, though regretfully, that this serum has not been a marked success in this country.

The bacteriologists of the Chicago Department of Health are at present studying the bacillus of influenza, which they have succeeded in isolating. Though it is a long journey from the discovery of a bacterium to the successful production of an antitoxin to the effects of that germ, still it is a matter of interest to know that the exact cause of the dread epidemic is at last known.

These scientists are now in the midst of a thorough investigation of the bacteriology of scarlet fever.

When using antitoxin, the necessity of obtaining serum of a reliable manufacturer cannot be too strongly urged. Everything depends upon the laboratory. For instance, we cannot tell from the appearance of a package of serum whether it contains 100 units or 1,000 units, or none. We cannot tell whether it comes from a healthy animal, or whether it was contaminated with

bacteria when bottled, or whether it has become contaminated after leaving the laboratory. Only that put up in hermetically sealed bulbs is absolutely free from the possibility of contamination.

Foreign serums have shown themselves to be inferior to the American in some respects. This is due, first, to the fact that the foreign antitoxin has been shipped a long distance; secondly, the technique of production is not so perfect, and, thirdly, the European manufacturer regards the market in the United States in a light of an orange to be sucked as dry of profit as possible in the shortest time. In the March number of *Pediatrics* is a report which says that the serum on the London market in 1897 was a worthless article; that one German house supplied in London an antitoxin which was warranted to contain 100 units, but which in experiment gave only 17.5, while another sold as containing 200 units gave only 30 units. Only a short time ago there was current an able-bodied rumor to the effect that German manufacturers were sending to this country diphtheria antitoxin which had been rejected by their own government. The vast majority of unfavorable reports on the use of the antistreptococcic serum has come from European physicians or from physicians of this country who have used the foreign serum. The European manufacturer does not take so long a time to immunize his horses, and does not usually possess so virulent a toxin for immunizing purposes. Then, too, the foreign serum is necessarily subjected to many and great changes of temperature incident to long transportation, while wending its devious way from the European laboratory to the American physician. While the American laboratories are willing to exchange old serum for fresh, the foreigner, of course, cannot do this, and after serum has become too old, it is a dead loss to the physician or druggist, or is injected into the patient sometimes with unfortunate consequences.

The action of Professor Emil Behring in obtaining a patent on diphtheria antitoxin, and his present efforts to obtain a patent on tubercle antitoxin, have justly met with the decided disapprovel and condemnation of every American physician who has any belief in the ethics of the profession. Various medical societies, including the Mississippi Valley Medical Association, the Chicago Medical Society, and many others, have passed resolutions expressing their indignation, and promising their active support to the American manufacturers who are engaged in litigation with the owners of the patent. Perhaps no subject has been taken up so promptly by the medical press. Every one of the better periodicals has had at least one editorial scoring Professor Behring in the severest terms.

Permit me to add to the foregoing detailed treatment of serum-therapy a few considerations touching another instance of progressive medicine—our improved knowledge of the laws governing the science of pharmacology.

A great step in the advancement of the science of pharmacy is the accurate estimation of the activity of various drugs by testing them upon living animals. This is known as the physiological assay. For some years the better class of manufacturing pharmacists have made a chemical assay of the various drugs amenable to such an examination. It has long been known, however, that the activity or strength of many drugs, such as cannabis indica, ergot, strophanthus and digitalis, cannot be determined by the chemist. For instance, ergotin does not represent the therapeutic value of ergot, nor does cannabin represent that of cannabis indica, nor digitalin that of digitalis. Unfortunately, the drugs of this class are the very ones which vary most widely in their activity, and are also the ones which the physician gives most carefully, and from which he wishes to obtain the most definite results. By the physiological assay the manufacturer tests each lot of drugs on a number of animals, and does not allow the product to leave his laboratory until he has obtained definite results. The conclusion is inevitable that

the physician will obtain his results much more surely with preparations so standardized than he will with those which have not been assayed. A brief description of the method of these physiological tests as given by Dr. E. M. Houghton is interesting.

From times prehistoric it has been observed that in fowls, swine and other animals as well as man, fed with ergotized rye or with bread prepared from the flour of such grain for a considerable length of time, the poisonous action of the fungus is frequently manifested by gangrene and sloughing of the peripheral parts, as the comb of fowls, ears of hogs, and ears, nose, fingers and toes of man. Two particular types of ergot poisoning have been observed, namely, ergotismus gangrinosis and ergotismus spasmodicus. Kobart and his pupil Grunfeld were the first to employ the feeding of ergot to roosters in order to determine the activity of the crude drug or of the products isolated from it. However, these investigators employed the action only for experimental purposes.

In making the preparations of ergot, the carefully selected crude drug is tested by being fed to roosters, a certain number of grains to a certain weight of animal. If it is of normal activity, it produces the local effect in the comb and wattles. This drug is then carefully exhausted with the proper menstruüm, and the finished product is again tested in the same way. About one-third of the ergot thus tested is found to be inert. If the finished product proves itself below the standard, more of the drug is exhausted with the same menstruüm.

The therapeutic importance of the heart tonics, digitalis, strophanthus, and others of the group, is now recognized, and these drugs are universally employed by physicians in their daily practice. We are not generally accustomed to think of the heart tonics as being the most poisonous remedies employed in therapeutics, yet it is true. According to some of the best authorities, the maximum dose of extract of digitalis is about one-half as great as the maximum dose of extract of belladonna; while strophanthin, the active principle of strophanthus, is three times as poisonous as atropine, ten times as poisonous as strychnin, and twelve times as poisonous as absolute hydrocyanic acid. It would be considered dangerous pharmaceutic practice to allow preparations containing atropine, strychnine or hydrocyanic acid to be sold, without first being subjected to careful chemic assay and standardization. The United States Pharmacopœia gives elaborate methods for the exact quantitative determination of these constituents; while owing to the fact that the obtained active principles of the heart tonics are glucocides so easily decomposed by chemic manipulation that an assay can not be made, no directions whatever are given for the determination of the physiologically active properties of the galenical preparations of these drugs, and the tests for the purity of the respective glucocides are of little value.

I shall speak of the physiologic assay of strophanthus, its active constituent, strophanthin, and its pharmaceutic preparations. These will serve as types. About thirty varieties of strophanthus have been discovered. It is claimed that only six varieties contain strophanthin, while a few contain a still more active glucocide, ouabain. As found in the American markets, the drug generally consists of a varying mixture of the seeds of strophanthus kombe and strophanthus hispidus. Preference is generally given to strophanthus kombe since it contains about 0.95 per cent. strophanthus, while strophanthus hispidus contains about one-third less. The amount of contained strophanthin is partly dependent upon climatic conditions. It is a well known fact that the physiological activity of digitalis leaves varies within wide limits from year to year. Holmes, of London, who has given this matter much attention, claims that only by purchasing the seeds in the follicle and testing a seed from each follicle can a reliable preparation of strophanthus be made. An assay based on the amount of extractive contained in a given tincture is of little value to the physician since the extractives

consist largely of chlorophyll and other inert substances.

In making a qualitative assay a solution of the crude drug or its active constituent is applied to the laidbare frog's heart, and the slowed rhythm, the less and less perfect diastole, the increased systole and, finally, complete inhibition in systole are noted. Intravenous injections of such solutions into dogs and rabbits are made with careful observation of the variations in blood-pressure and heart-beats, as shown by graphic tracings reported on the kymograph.

A quantitative estimation by pharmacologic methods is a much more difficult problem. Many series of experiments were necessary in order to decide what method is best for this work. Finally, the most practical method was found to be the determination of the minimum fatal dose on lower animals. Accordingly, rabbits, guinea pigs, rats, frogs, etc., were employed, the frogs being finally chosen as the best adapted for the purpose. Different species of frogs vary considerably in reaction to the poisons, but the same species behave much alike. The method of administering the poisons and observing results may be briefly stated as follows: The strophanthin or tincture of strophanthus is dissolved in normal salt solution in such strength that the total quantity to be injected shall not exceed 5 c. c. The fluid is injected through the frog's mouth into the abdominal lymph sac. Great care is taken not to puncture the skin, as this will allow a portion of the injected fluid to leak out. After injection, the frogs are placed in wide frog glasses, the plates containing about a quarter of an inch of water. Several series of five frogs each are injected for each sample of the drug to be assayed, the first series to be injected with a drug of known standard strength. The second series is injected with doses varying considerably in size. The third series is injected after the approximate dose of poison has been found from the second series. From the third series the minimum dose is almost surely fixed. A fourth series is finally injected, which fixes the limit of strength very closely. The minimum fatal dose should kill at least three frogs out of five. If a less number die, other series are injected with slightly increased doses.

A series of fourteen experiments made with tinctures prepared from different lots of the seed as found on the market showed the fatal dose of the strongest to be .00010 c. c. per gram of body weight, and the weakest to be 0.33 c. c. per gram of body weight. Samples of strophanthin were obtained from three of the best manufacturing chemists in the world. These were supposed to be pure strophanthin, yet one was ninety times as strong as another, the others varying between these limits. The digitalin varies greatly in strength, but much less than strophanthin. Both strophanthin and digitalin are given daily in tablet or pill form, the amount of active ingredient being apportioned by weight. A splendid opportunity for the sudden termination of a favorably progressing heart case should the patient happen to have the prescription refilled from a fresh bottle. The only way that such remedies can be taken with any degree of safety is to have them prepared from stock of known physiological strength.

The drugs assayed by the physiological method are: Ergot, cannabis indica, digitalis leaves, strophanthus seeds, convallaria majalis, elaterium and cocaine. It is worthy of note that, of the crude drug cannabis indica, about 50 per cent. is found to be inert.

We have traversed—albeit cursorily when we consider the magnitude of the theme—the vast field embraced in the History of Medicine. In closing the subject, a retrospective glance will show the magnificent achievement of the present day compared with the crude knowledge of former centuries. The acquisition of knowledge, however, is like the ascent of a mountain—the higher the point attained, the wider the horizon and the less definite our perception of details. We have, it is

true, reached a clearer, purer atmosphere; yet, as the law of compensation presses upon us, we must constantly devise new methods of scientific conquest. As the telescope has overcome space, let us hope that no minutiæ of medical knowledge will forever resist the genius of patient investigation in the domain of therapeutics.

"Medicine has for its object the relief of suffering and the prolongation of life. There exist many limitations to the successful accomplishment of this object. The limitations of medicine are less numerous to-day than in the past, and many of the obstacles to success in the prevention of diseases and the healing of the sick will be removed in the future.

"Medicine, as a whole, is not a science. Of some branches which enter into it our knowledge is exact; of others our information is theoretic, while every day adds to our knowledge and removes many obstacles from the path of progress. The chemic laboratory and the microscope have done much and will do more to make medicine a science. Progress in knowledge of chemistry and biology has been wonderful in the last twenty years, and this knowledge has removed many of the limitations of medicine. Strange as it may seem, the limitations of medicine which man is striving to remove, are due to man himself.

"Man is the highest type of animal, endowed with a mind capable of reason, and gifted with a means of communication with his fellows; and yet man is the very source of his own undoing. The original man was doubtless perfect in mind and body; the master of all created things. Like all organic life, his span was made up of periods of birth, growth, maturity and decay. He was doubtless able to combat his foes and sink at last, in the fulness of his years, into euthanasiac sleep. The history of man, since the fall, is like the repeated pages of a book. Vicious habits mark his footsteps, whether civilized or barbarian; his habits of work and of rest, his food and drink, are not rational; he contaminates the air he breathes, the water he drinks and the food he eats. The water-sources and the earth, contaminated by man, become soil for the growth of the germs which infest and sicken him. His contaminated body begets a prototype, imperfect in mind and body. From the cradle to the grave a degenerate being, he fights against a mighty host, bred of his own shortcomings. Most of the infectious and contagious diseases may be classed as preventable; most of them are filth diseases, and they can not exist in the presence of perfect cleanliness."

PSYCHO-PHYSICAL CULTURE.

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In order to understand fully the full import of the thoughts herein involved, we shall have to consider the body as a thinking and feeling machine, possessed of a double consciousness.

Thinking, feeling and doing—these three which may be denominated as the human trinity, are so inseparably united in the life of man, that it is impossible to study the simplest physical act without considering the psychical condition or state that precedes the act. Besides, it is known that each and every act is prefigured by a thought of that act from which it has its main spring for action. It is not necessary that the thought should be a conscious one, however; sub-conscious thoughts are just as potent in determining physical conditions as conscious thoughts.

Let us, therefore, in the first place, inquire as to what is consciousness? Conscious, from *con*, together, *scio*, aware. The derivation of the word indicates an indeterminate state—a comparison of conditions or feelings, and such it is. There are degrees of consciousness and we can only know or realize the particular state of condition in which we find ourselves by comparing it with some previous state or condition. The term "conscious" is generally used as representing a state opposite or opposed to unconsciousness and is supposed to

be the normal state of man, a state in which he is able to divine and interpret his sensations—an internal perception of external conditions that relate especially to him—a condition in which he is able to cognize himself—not always, however, positively or definitely, but nevertheless a condition of awareness.

Formerly the preposition "to" was used with the word; now more commonly we see "of" or a clause or sentence introduced by "that."

So much for the derivation and meaning of the root from which the word—consciousness—is derived. Now, as to the full word under consideration. It has a somewhat broader signification, including not only an internal recognition of external sensations, but the ability to sense one's relations, external, internal and spiritual as well, a psychical correlative. Thus, we have three states of consciousness; objective, subjective, and supra-consciousness.

The objective is generally spoken of as normal because it relates to our material life, has to do with "common sense" relationships, while the subjective has to do more with our "feelings" and here again we are in trouble, for no two writers use the latter word in the same sense. Some English writers have bodily adopted the German word Gefühl, while others hold that the term should be limited to more objective sense relationships. Still others have associated the term "self," or "self-feeling," to cover conscious appreciation of self or objective consciousness of our emotional life as opposed to our objective perception of sense relations.

In this discussion, however, let us take the term in its good old-fashioned indefinite sense as covering our intuitions, objective and subjective, i. e. our feelings. Subconscious consciousness, then relates to that part of our nature that operates beneath or beyond the threshold of objective consciousness at special and peculiar times.

Mr. Myers, in discussing the subject in a series of chapters dealing with the existence and faculties of a subliminal self, says: "It is a part of our mind or faculty which lies below the threshold of our ordinary consciousness," etc., etc. The term as used by him is similar in its application to our term "sub-consciousness" and might be written thus, "sub (liminal) consciousness" so as to avoid confusion if we were so minded. But, as his term has not been generally adopted, it seems best to drop it altogether and confine ourselves to the simpler one, subconsciousness, which has now almost wholly displaced the term "unconsciousness," which formerly held sway as relating to mental processes that take place beyond the threshold of consciousness.

I cannot, in further elucidating the subject, do better than to present my definition of mind.

"Mind is the intelligence within man, natural and acquired, that makes him what he is intellectually, morally and physically." The "natural" mind is an inheritance and operates beneath the threshold of consciousness, hence is subjective in character as objective consciousness only comes through knowledge based upon comparison of sense relationships.

Subconscious mental activity is in operation at all times, however, from the very inception of being, while "objective" or "acquired" mental activity only comes with age and understanding. The term "age" as here used relates to maturing processes, not to maturity.

The objective mind or acquired intelligence is the result of the sum total of sense experience and has its seat in the sensorium where different centers for the several senses have been definitely located.

The subjective or natural intelligence has no special seat, but permeates all portions of the body and controls the so-called unconscious functional activities, while the objective mind directs the conscious or acquired functions. The objective mind also locates what has been termed "common sense," while the subjective mind forms the seat of the higher or "uncommon sense."

The mind is, therefore, dual, "subjective and objective" and dreams prove the dual-

ity of the mind: Conscious thought belongs to the objective; un or subconscious thought to the subjective mind. Man is born with the subjective but develops his objective mind through experience and education.

Our bodies are alive by reason of the fact that they are possessed of subjective intelligence. Poetry, art and religion are subjective gifts.

The subjective mind is the seat of the emotions and of the memory of intellectual things, while the objective mind locates the memory of sense experiences.

Music is a subjective sense, while taste, touch and sight are related to the objective mind.

Consciousness is located in the objective mind while conscience is a subjective attribute.

The objective mind is the seat of worldly intelligence while our spiritual nature is subjective.

The power to determine between right and wrong is inborn, when it exists, hence subjective.

The subjective mind is ever active, but we are only conscious of its operation when our subjective thinking rises above the threshold of consciousness, or in other words, when our subjective thoughts become objective.

Memory is the act of calling subjective experience above the threshold of consciousness; hence is both subjective and objective in character. The process is not fully understood. Probably through association of ideas, many times this is a subconscious mental activity. Many thought processes may go on at once. You may be talking with a friend and try to recall the name of a party well known but which escapes you for the moment. "How annoying!" you exclaim, "I know his name just as well as I do yours." Well, never mind, you say, and go on talking. When, right in the middle of a sentence, you stop and say, "How strange I should have forgotten that man's name; its 'John Smith' or 'Peter Jones' or whatever it may be." The power to dictate to several stenographers at one and the same time on different subjects also demonstrates the ability to isolate the brain centers. In a similar way some persons have the power to isolate the subjective mind.

Poets, musicians, inventors, geniuses, people whom the world call impractical, live much in the subjective or dream state. This state is said to be unreal. What is real, we would ask? Must an experience possess a metallic ring, bear the stamp of coin or smell of garlic in order to be considered real?

Not all dreams or dreamers are visionary: God bless the dreamers. In all ages they have been the daring souls that would not be discouraged by the pessimistic cry of impossible! Impracticable! They have held true to the star of hope that illumined their lives and gone ahead, many times, boldly to snatch success out of the very jaws of defeat. Thus was steam harnessed, the world circumnavigated, the lightning chained, and the earth girdled by overhead and submerged cables and every other glorious enterprise brought to a full fruition.

The materialistic spirit of a materialistic age is going down before the doctrines of love embodied in the sermon on the mount. The ideas there promulgated are becoming slowly but surely engrafted upon the human soul. Their promulgator, according to the spirit of the times in which he lived, however, was a dreamer.

A recent definition of soul is; the moral and emotional part of a man's nature, the seat of the sentiments and feelings as distinguished from the intellect.

This definition recognizes a difference between the mind and soul morally and physically.

The natural intelligence within us, is comprehended in the soul or subjective mind. The acquired intelligence is the sum total of our sense experiences registered in the cortex of the brain where the objective mind also finds its seat.

The scholastics following Aristotle held that the soul was the primary principle of

life, possessed alike by the vegetable and animal kingdoms; but that man, by reason of his power to form abstract ideas had a still higher differentiated soul than either plant or brute, that man alone had a rational and immortal soul.

The theological idea of soul at the present day is that spiritual, reasonable and immortal substance in man which is the origin of his thoughts and reasoning powers and which distinguishes him from the brute.

In considering the subject in hand, sight must not be lost of the part the emotions play in body control. The heart has long been considered the seat of the emotions, ignorantly of course, but nevertheless in so doing our forefathers were not so far from the truth as some might think, at any rate they were working in the right direction although, in their ignorance, they mistook effect for cause (which is the history of nearly all discoveries in nature) yet while blindly reaching out for the source of physical action they prepared the way for later researches.

The heart is a so-called involuntary organ, by this is meant that it is not subject to objective or intellectual control, but is readily influenced by the emotions and being perhaps the most vital organ in the body was wrongly considered as the seat of the emotions because it was so readily affected by them, whereas the true seat of emotion is found within the subjective mind, which directly controls the action of the heart and all other so-called involuntary functions.

The difference between a corpse and a living body lies in the fact that the intelligence that animates the living organism has departed in the corpse. Man, thinking, feeling, doing, is simply an intellectual machine. Mind, the motive power, is a separate entity from matter and has the power of taking inanimate matter to itself and fashioning it as it listeth. "Matter is without form and void," until it is operated upon by mind, (intelligence) when it may be fashioned into any form that may be prefigured in the mind. The law of procedure lies in this wise: Form, the result of function; function, an effort upon the part of nature to supply or fulfill a want; want or desire, a state of mind; mind, the intelligence within that makes us what we are.

Having thus outlined the relation of the subjective and objective parts of our nature let us now consider how thoughts become manifest in the flesh—how the motive power, thought, gets hold of the lever of the body. Let us illustrate. I have a thought to cast a pebble into a pond. It may be only an emotional thought impulse and I may not act thereon, in which case no perceptible energy arises by reason of the concept, but once let the idea be grasped by the objective mind and a chain of events is set in motion the end of which may never be known. The intangible condition or state known as the emotions thus becomes the incentive to action and energy once inaugurated never ceases. It may be transformed and even transmuted but never lost. There are those who would deny the power of initiative to the mind and who claim that energy is the source of all visible action, and that intelligence simply takes hold of this already existing force and directs it into channels suited to its own purpose. They, however, have never attempted to explain the source of energy, they simply assume that it has always existed. Now, I am willing to admit that thoughts are things having meeds and bounds capable of being measured and weighed also for that matter, but then thoughts are the physical manifestation of subjective ideas or concepts. And it may be, that with our advancing knowledge of the physical nature of ether that we shall find that even ideas have a physical basis and that back of these yet there exists a more refined state of consciousness that may be denominated as "supraliminal" as distinguished from "subliminal" or subjective. I am inclined so to believe, but am hardly prepared, as yet, to commit myself to the theory. But this I know, that back

of all states of consciousness is a universal intelligence, from which all are permitted to draw at will only hindered by their own obtuseness or lack of knowledge as to the correct methods to adopt in order to avail themselves of this vast source of information. Psychologists are coming to acknowledge states that transcend reason and sensation, yet in all these states consciousness is continuous. When we awake from an anesthetic condition, sleep or trance, we are conscious of having been unconscious, hence we must have been subconsciously awake, or we could not afterwards have been aware of the fact that we had been "unconscious." Hypnotic experiments amply prove the truth of this proposition; as it is well known that amnesia may be established by suggestion and memory of even the minutest details afterwards restored at will.

For many years I have practiced "keeping in touch" by continuous "suggestion" with patients while they were going into and during the anesthetic state. As long ago as 1881 I demonstrated conclusively to myself and others that consciousness could thus be kept intact during a prolonged administration of ether and that the anesthetic state, produced by nitrous oxide gas, could be extended almost at will by suggestion.

In 1896 I made a test case regarding the continuance of consciousness during ether anesthetization on a small child by relating a "made up" fairy story which lasted during the time required for the administration of the ether and the subsequent operation. The etherization was complete as was witnessed by the stertorous breathing and anesthesia. After the operation the fairy story was related by the child without any serious omissions. In not a few instances have I had patients say to me after an operation under an anesthetic: "I knew what you were doing all the time, but it did not hurt and I could not move." Dr. S. O. Goldman, of New York, recently published an account of a case in which consciousness seemed to have been almost perfect, although no pain was felt during the operation. Afterwards the patient remarked to the Doctor that "she had endeavored by moving her finger to let him know that she knew everything that was occuring, yet felt no pain." Respiration was deep, regular and stertorous in character.

Consciousness may, at times, be objective and at other times subjective. There is, however, no break in the stream of consciousness, and while these states are separate, and distinct in their essential make-up, yet they mingle with each other under favorable conditions, but, like oil and water, as readily separate again. The relationship is an interrelationship only, and while each influences and modifies the other by reason of such close union, still each maintains its own individuality. But it is not our intention to enter into the discussion of this part of the subject any further than is necessary in order to establish the channel of thought action in diseased conditions and point out the probable line of procedure necessary in order to establish healthy function, when once it has been disturbed, by calling to our aid the active co-operation of suggestion, attention and desire as dynamic forces of the mind.

Nature has beneficiently arranged her plans so that all necessary function is pleasurable and, in the main, performed within the realm of the subconscious; whenever any function comes prominently into the field of consciousness so as to fix itself in the attention it is in serious danger of becoming diseased. It is neither comfortable, nor safe for the working of any bodily function, except under the direction of a skilled physician, to come under the influence of the attention for any considerable length of time. This danger will be more fully appreciated when it is known that attention is the off-spring of the emotions and consequently embodies motor phenomena. It, attention, therefore may become a serious vital depressant or hyperexcitant, but the converse is also true, that rightly directed it may be made a powerful stimulant to increased functional activity,

and thus aid in the restoration of healthy function.

Ordinarily, attention is an effect and not a cause and nature has so ordained it, otherwise it might be made to hold on to some one function, persistent idea, to the exclusion of all others and thus act to the detriment, if not the fatal injury, of the organism as a whole. The highest achievement of volition conceivable is fixation, by force of the will of a disagreeable object or function in the attention and there keeping it continuously until ideo-motor impulses have arisen. In such instances the fact is plainly demonstrated that attention is an effect with motor impulses and under the control of the will of the individual. The will in this instance works by inhibition, and suggestion, operating through the will, tends to fix the attention on one object or set of ideas consequently making attention its basis of operation.

As has been shown, attention may be divided, for convenience of study, into two forms; natural or involuntary and voluntary or educated. The first is exhibited by all animals, man included, and is the lowest form of this force. It is the form also that has to do with most bodily functions. The second form, educated attention, is the higher of the two and to a very great extent, is confined in its manifestations to educated man and a few of the domestic animals. The power of attention is in a direct ratio to the intelligence or intellectual attainments of the individual irrespective of genera, species or sex, and depends upon the action of the will for its maintenance and is therefore essentially a motor phenomena acting through the muscular system. It may become an inhibitive force when so directed by the mind as well as a progressive power. Healthy function, as we have indicated, is a pleasurable habit, or should be, and in its natural performance belongs to the realm of involuntary subconscious activity. This is shown by the bodily habits of dumb brutes and uncivilized man. In the gratification of their animal desires and the performance of necessary bodily function these respect neither times, persons nor places. The same may be said of the infant off-spring of civilized man and household pets in general. Not until they have been taught by experience, do they show any sense of the fitness of things. Even in those commonest of functional activities micturition and defecation. Necessity and the frequent calling of the attention to the ethics of the matter finally, if the individual is possessed of any degree of intelligence, places these functions on the voluntary list and brings them under the domain of voluntary attention, thus demonstrating that voluntary attention is a child of education, the product of civilization.

Now, if compulsory education can be made operative in the above instances, and in many others, had we time to recount them, it stands to reason that if the means of enforcing or directing the attention could be known for each and every function, voluntary functional control could be established and made universal in its operations throughout nature. Not only this, but abnormal conditions could be righted by similar methods. I believe that the day is not far distant when every involuntary function will be superceded and that man will be able to bring all his organs under subjugation to his will. The heart and uterus have hitherto been classed as involuntary organs but psychological investigators in the domain of hypnosis have demonstrated that they are amenable to suggestion to a greater or less extent, in susceptible subjects, and if this is true in certain cases, it goes to prove the possibility of control in all instances.

James Mark Baldwin, M. A., Ph. D., Stuart Professor of Psychology in Princeton University, in a recent work (1895) on the "Mental Development in the Child and the Race," in discussing the subjects defines suggestion: "As the tendency of a sensory or an ideal state to be followed by a motor state," and says, "it is typified by the abrupt entrance from without into consciousness of an idea or image, or a vaguely

conscious stimulation, which tends to bring about the muscular or volitional effects which ordinarily follow upon its presence."

"Janet defines suggestion as 'a motor reaction brought about by language or perception.'" This narrows the field to certain classes of stimulations, well defined in consciousness, and overlooks the more subtile suggestive influences emphasized by the Nancy school (of theorizers). Schmidkunz makes it: "die Herbeirufung eines Ereignisses durch die Erweckung seines psychischen Bildes."[1] This again makes a mental picture of the suggested 'event' in consciousness necessary, and, besides, does not rule out ordinary complex associations. It neglects the requirement insisted upon by Janet, i. e., that the stimulus be from without, as from hearing words, seeing actions, objects, etc. Wundt says: ("Suggestion ist association mit gleichzeitiger verenger-ung des Bewusstseins auf die durch die Association angeregten Vorstellungen.")[2] "In this definition Wundt meets the objection urged against the definition of suggestion in terms of complex association, by holding down the association to a 'narrowed consciousness;' but he, again, neglects the outward nature of the stimulus, and does not give an adequate account of how this narrowing of consciousness upon one or two associated terms, usually a sensori-motor association, is brought about." Ziehen says: "In der Beibringung der Vorstellung liegt das Wesen der Suggestion."[3] "Here we have the sufficient recognition of the artificial and external source of the stimulation, but yet we surely cannot say that all such stimulations succeed in getting suggestive force." "A thousand things suggested to us are rejected, scorned, laughed at. This is so marked a fact in current theory, especially on the pathological side, that I have found it convenient to use a special phrase for consciousness when in the purely suggestible condition, i. e., 're-active consciousness.' The phrase 'conscious reflex' is sometimes used, but it is not good as applied to these suggestive re-actions, for they are cortical in their brain seat, and are not as definite as ordinary reflexes." Baldwin continuing says, "For my present purposes, the definition I have given from my earlier work is sufficient, since it emphasizes the *movement side* of suggestion. The fundamental fact about all suggestions,—not hypnotic suggestion alone—which some of the definitions which I have cited, have exclusive reference to—is, in my view, the removal of inhibitions to movement brought about by a certain condition of consciousness, which may be called 'suggestibility.' The further question, what makes consciousness suggestible, is open to debate. There are two general statements, —not to elaborate a theory here, however —which are not done justice to by any of the earlier theories. We may say first, that a suggestible consciousness is one in which the ordinary *criteria of belief* are in abeyance; the co-efficients of reality, to use the terms of my earlier discussion of belief, are no longer apprehended. Consciousness finds all presentations of equal value, in terms of uncritical reality-feeling. It accordingly responds to them all, each in turn, readily and equally. Second: This state of things is due primarily to a violent reaction or fixation of attention, resulting in its usual monoideism, or "narrowing of consciousness."

In a state of full or complete consciousness our two minds are co-ordinate, each alert and active to support the other. In the normal condition this interdependence and association is good for the organism. It develops a state of self reliance and individuality, that is to be commended. But when a condition of disease or mental disarrangement exists the co-ordination of the two minds tends to maintain the diseased condition. In order to reach the seat of the derangement we must dissociate these two states of mind or consciousness.

The objective mind which represents the objective individuality of the individual, rebels at advice (suggestion) and the degree of the rebellion, in some instances, is in a

1. Psych. der Suggestion.
2. Hypnotismus u. Suggestion.
3. Philos. Monatshefte xxix. 1893, p. 489.

direct ratio to the deviation from the normal. Hence, in order to administer suggestion successfully the objective attention must be fixed and thus bring about a condition of dissociation of consciousness.

An idea, sensation or experience which once comes within the grasp of our sensorium, consciously or subconsciously remains ever after to influence our bodily functions and actions in life. Changes in consciousness are reflected in the domain of the physical whenever the circumstances or conditions are propitious for their production. Time will not permit to enter into the discussion of the modifying influences of pre-existing states of consciousness upon new perceptions, permit me to say though, in passing, that the latest thought-acquisition has to pass through the test of psychical digestion and assimilation much as does organic matter in the physical body, before it finds its place among recognized mental states.

The intimate relationship existing between mental states and physical conditions is only to be understood by a close investigation from the standpoint of experimental psychology. Biology has thrown very little light upon the subject, except to reveal the mechanism, by reason of the fact that biological processes, to a greater or less extent, annihilate the vital element. The subject is best considered from the standpoint of the psycho-physical.

We have dwelt thus at length on the purely psychical side of the question in order to intelligently establish a foundation for the erection of a superstructure in the physical. I am conscious, however, that even this statement will meet with opposition from materialists, who consider mind a less substantial basis for operation than protoplasm.

Psycho-physical culture, however, primarily has its inception in the mind, and mind and body must co-operate. While direct benefit to the body comes through carrying out of the objective thought, yet the greatest benefit is drawn from the concentration of the subjective mind on the result to be obtained by the exercise. The exercise is made the means of administering the suggestion. We thus call into play that potent agency "expectant attention" which Dr. Hunter pointed out as early as 1786, as one of the most remarkable forces in nature.

Auto-suggestion is more potent than direct suggestion. The best means of using suggestion in practice is yet to be discovered. In fact, the *modus operandi* of its action is not fully understood.

In my practice I teach emotional control through muscular control and psycho-physical culture occupies a prominent place in my pharmacopœia.

Medically speaking, it comprehends a thorough system of gymnastics and breathing exercises which may be used as the basis for administering suggestions, auto and direct, looking toward establishing a healthy state of body and mind in a patient. Harmonic gymnastics may be defined as a series of rhythmic motions which tend to teach emotional control through muscular control rather than develope muscle.

Dynamic breathing includes the so-called Yoga practice of breathing exercises, that are known to possess real life-giving power.

It is impossible, however, in the short time alloted me to even outline a system of procedure. In fact, I have no system. I study each case as it presents and prescribe the exercise which seems best adapted to the needs of the case in hand. I have culled some two hundred exercises from the different systems in vogue and adapted them to the needs of my practice, which as you know, is confined to nervous diseases and drug habits. I employ Delsarte graduates as attendants and instruct them in the medical use of that system. I have a school for attendants and employ the highest order of intelligence that I can obtain. The ordinary "trained nurse" is of little use in handling nervous cases. I train my own, and do not call them nurses, but attendants.

Dr. Curtis recently published a paper advocating a system of harmonious vibrations

to be administered while the objective attention was engaged by looking at a kaleidoscopic image thrown on a screen by a stereopticon.

I long ago gave up this passive method of treating patients and now let them "work out their own salvation with fear and trembling;" it is true in many cases, but then when they have "worked it out" they have something to take home with them that they can use for relief in the future if they should ever stand in need of such aid.

I obtain the same condition of harmonious vibration as does Dr. Curtis, but through the patient's own effort, which I hold is much more scientific and lasting in its effect, than is the method advocated by him.

Patients are given a regular course of physical culture, which is practiced to the accompaniment of music, and at certain stages of the course, are required to intone on a note that has been specially prescribed for the case in hand. This is done by requiring the patient to take a note from the piano, pitch-pipe or tuning fork, and to hold it while going through certain movements. In some cases, for instance, where it is desired to raise a patient out of a fit of despondency, he is made to inhale on tones of various musical scales, beginning, say, to inhale while sounding the musical note corresponding to G, and exhale while sounding the musical note corresponding to E in the scale of C natural. This is the only perfect scale, and is therefore the model for all other scales, so that when once in harmony with it the bodily key note or scale of an individual is readily determined. It is very difficult to describe the *modus operandi*, because each case is a study unto itself, and special methods have to be adopted in every case, no general rule being applicable to all cases.

The keynote of a patient varies from day to day, and in different individuals. You ask how to get it? This is not very difficult. There are many ways. The experienced operator along this line of practice instinctively feels the vibration of his patient and will unerringly adopt the correct note upon which to exercise the patient. There are, however, methods that are thoroughly scientific for obtaining the keynote of an individual. One of these is by closing the ears with the fingers and permitting the patient to hum the scale. When he strikes a note that is in consonance with the note heard in his ear, have him hold it until it is found on the piano or tuning-fork. Another way is by permitting him to run the scale until he finds the tone that causes all of his air cavities to thrill and vibrate simultaneously. He will sense it in his chest, throat, head and nose.

Both of these methods are, however, amenable to error, in that the patient must be depended upon to determine when the note of the scale is in consonance with his body note.

Another method not open to the above objection, and which is sometimes used, consists in having the patient speak or hum into the receiving tube of a phonautograph devised by Scott and improved by Kœnig. The instrument somewhat resembles a phonograph, although when in use its mechanism is reversed. Instead of giving out sound, it is a sound receiver. As its name indicates, it is a self-registering sound apparatus and is a modification of the drum and tuning-fork arrangements so commonly in use in physical laboratories. All the waves that enter the paraboloid impinge on the membrane and throw it into vibration. On the side of the membrane next to the cylinder is attached a very fine and light style, which faithfully inscribes on the smoked paper around the cylinder the slightest motion given to the membrane. By means of a small adjustable clamp, held in position by a screw, it is possible, with a second screw, to regulate at will the tension of any given point to the membrane. In this way we can obtain a record of any sonorous wave that enters the paraboloid. By this instrument we find that each sound traces out its own characteristic curve—writes out its own distinguishing autograph. Some sounds give indentations

much like those of the tuning-fork, while others, like those of the human voice, give rise to sinuosities of much greater complexity.

By means of a tuning-fork, which is kept in vibration simultaneously with the style, the frequency of any sound can be determined with the greatest ease and precision. The process is identical with that used in estimating the vibration of an elastic rod. We have traces of both the sounds made on the smoked paper, and knowing the frequency of the fork, we have only to count the number of sinuosities of each sound corresponding to any given distance on the paper, when a simple proportion will give us the number of vibrations made per second by the sound collected by the paraboloid and recorded by the style attached to the membrane.

Let a patient sing a prolonged note into the open end of the reflector. On turning the cylinder we have the curve peculiar to this note, and at the same time we have the sinuous line produced by the tuning-fork. Then count the number of vibrations made by the voice for any given length of time, and suppose we find that the voice makes one hundred and eighty sinuosities while the fork makes seventy. What is the frequency of the note sung, that of the fork being one hundred? When the fork makes seventy vibrations, the voice makes one hundred and eighty; when the fork executes one hundred vibrations, the voice executes x vibrations. Putting this in the form of a proportion, we 70:180::100:x, from which we find the value of x to be 257 1-7, which corresponds almost exactly with middle C of the pianoforte.

In this way, unknown to the patient, his note of vibration may be obtained while he is carrying on an unembarrassed conversation, i. e., the rate of his bodily vibration will be registered on the smoked drum alongside the register of a tuning fork of known vibration, and a comparison of the two lines will accurately determine his rate of vibration, and from this his keynote may be obtained as above indicated.

In practice it is empirically taken for granted that all patients vibrate inharmoniously; in other words, are out of tune, or they would not present themselves for treatment. There being no fixed body note that may be said to be normal, having found the keynote of a patient it is considered as abnormal and a series of experiments are begun in changing the rate of vibration and carefully noting the effect. When a change is found to be beneficial it is persisted in until its efficacy has been exhausted, when another change is made, and so on until the pathological symptoms have all disappeared.

Harmonious sounds are not, however, used to the exclusion of other means. The different forms of electricity, with their now well known variations, are fully employed as indicated, but most common of all is the electro-thermal and electro-solar bath.

The latter is the modern application of the old sun baths, with different colored glass. In this instance colored glass globes in the form of a series of incandescent lights are substituted for the vari-colored panes of glass formerly used. A very elaborate electro-thermal cabinet is used, with four rows of incandescent lights, one white, another red, still another blue, and the fourth green. It has been found by experimentation that a red bath is stimulating, a blue bath quieting, and a green bath depressing. These are used *ad libitum* as indicated in treatment.

Bearing upon this point a very interesting line of experiments was conducted by the well known French physicist, Camillo Flammarion, at the Agricultural and Climatological experiment station at Juvisy, indicating plainly the effect of different colored lights upon plants. The result is of special value, practically and theoretically, to us as well as to plant physiologists and climatologists.

It has been clearly shown by the various experiments that ordinary colorless light is represented by natural sunlight, because when exposed only to it, health and natural

growth reign. Colored light, according to the particular color used, causes either one-sided acceleration or retardation of development of the plant.

In his most interesting experiment Flammarion adopted the plan of exposing sensitive plants (mimosa sensitiva), which he raised from the seed, to different colored light. These plants are specially sensitive to the effect of light and to touch and were, therefore, well adapted for Flammarion's experiment.

He planted a number of seeds and the seedlings, after they reached a height of about one inch, were planted in pots in pairs and placed in a hothouse, where each pot received the same quantity of light and even temperature prevailed, so that the plants were subjected to the same conditions. But the experimenter placed over some of the plants bells of green, red and blue glass, while others received the sunlight through the plain glass of the hothouse window.

The effect of the colored light was soon perceptible in the development of the plants, and the more they developed, the plainer this difference became, until, at the end of two months, the plants under the red glass were sixteen inches high, those under the green glass measured only five inches, and those under the blue were only one inch, while the plants that had been left in the colorless light were four inches high.

The red light forced the plants most, for those subject to it blossomed five weeks after the seeds were planted, and the stems were much longer than the stems of the other plants. The difference between them and those exposed to the blue light was most marked. The leaves of the latter were, indeed, dark green, while the leaves of those subjected to the red light were pale, poor in chlorophyl. But the plants themselves seemed unhealthy and stunted. They had gained nothing in height since they were placed under the blue glass. Therefore, it was proved that the blue light was not only an impediment, but an actual injury to vegetation. The effect of the red light was noticeable, not only in the growth of the plants, but also in their sensitiveness, for even the slightest touch, a breath, was sufficient to cause the leaves to close and the little stems to droop. The plants exposed to white light only were not so easily affected, and those raised under blue glass were not at all sensitive. Those raised under white light must be considered normal. They were more stocky, and showed a greater tendency to bud, but the buds did not open.

It is interesting to note in this connection that, while green light seems more stimulating to plant life than either white or blue light, in its action on the animal organism, the reverse is true, and green is more depressing than blue. The different influence of blue and green upon plant and animal life may be accounted for on the ground of the absence of chlorophyl in the animal organism and its presence in the plant. Not only this, but the different shades of green act differently. The shade of green most common in spring foliage being most depressing to man, which may account for the prevalence of spring fever, so-called, in the spring of the year.

It is not to be considered that because green is depressing, however, it is necessarily injurious to the human organism. In many cases the depression is just what is needed, especially in nervous cases, where the bodily tension is high—those cases where the bromides would be administered in general practice.

The use of color in the form of clothing in the treatment of insane patients has also been adopted with marked success. As succinctly related by a recent writer, "Clear delicate blues are found to exercise a sedative or calming effect even upon those suffering with very violent manias. Yellows are exceedingly efficacious in combatting melancholia or extreme depression. Scarlets and vivid reds will raise the drooping spirits of many depressed and mentally disordered individuals. Bright, tender, spring-like greens will cause life to take on a new aspect and become worth living to

insanity victims with suicidal tendencies. Violets are soothing, browns and grays dulling in their effects, while black is distinctly and generally bad. Some insanity experts even go so far as to forbid the attendance upon their patients to wear black at any time."

In addition to the modified Delsarte and other physical methods, suggestion is more or less extensively used in the handling of patients, a sort of psycho-physical culture, using the physical exercises as a means of administering the suggestion. As, for example, with the use of the red light, the idea of "light-force and stimulation" are strongly held forth. With the blue bath the thought of "quiet and rest" are presented, and the patient's mind is led to dwell on the blue sky, summer verdure and singing birds. Great stress is laid upon proper methods of breathing and a thought is given with every exercise, tending to reinforce the benefit received from the exercise by the mental attitude of the patient toward the experience through which he or she is passing, and by thus strengthening faith in the means employed for cure, build up hope, and hasten and insure final recovery.

ETIOLOGY OF ECLAMPSIA.

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It would seem as if some apology were necessary for again presenting to the Society a paper on the etiology of eclampsia after the subject had been so exhaustively discussed by the eminent essayist of a year ago, but the great importance of the subject and a desire that the Society may use its opportunities to experiment and investigate in a new direction is sufficient justification.

The year has brought forth some new material which is extremely suggestive and of great interest in this connection.

The etiological agents which have been so thoroughly discussed and rediscussed are doubtless familiar to all of you and will receive no mention further than the statement that for the purpose of this paper all phenomena in connection with the brain, ureters and urine to which hitherto etiological importance has been attributed are not to be regarded as etiological factors, but only as results or at most as of accessory importance.

It is evident at the outset that this statement does not harmonize with many currently received opinions on this subject but I hope to show with some plausibility that a different doctrine is at least entitled to earnest consideration.

The preponderating significance of the blood and circulatory apparatus as carriers attracts the attention to the theory which seems to me to present the greatest degree of inherent probability to-day,—a toxemia, with a possible predisposing cause in hereditary irritability of the nervous system. A condition of the blood induced by the circulation wherein of a poison or poisons, the nature of which is at present undetermined. It is not uric acid, it is not creatin, but it is known that there is excreted by the urine a toxin as yet unseparated (Fultz and Ritter, confirmed by Bouchard) which may upon final isolation and analysis be found to be this poison from the circulation, probably a leucomaine of the uric acid group.

For the reasons which follow it is believed that the source of this toxin is in the uterine metabolism. This opinion, supported by the investigations of Lange from whom extensive quotations will be made later, follows from a logical examination of the general conditions associated with eclampsia. It is well established that eclampsia only occurs during pregnancy and the puerperium. The system of the eclamptic therefore is the same as before pregnancy with the one exception of the growing uterus and its contents. Only such metabolic product then can be considered which occurs either entirely in pregnancy, or in much greater quantities than in other persons.

The fœtal origin of the toxin is well supported by such names as Chrobak, Potter, Byers, Kollmann and many others, but to establish this position it is necessary to show a direct connection with the fœtus in utero and aside from the difficulty if not (at present, at least) the impossibility of doing this, all of the conditions would not be fulfilled as for instance in the post-partum cases. It seems more probable that either the uterus or placenta, or both, conjoined are the responsible sources of the toxin. The placental metabolism is not yet sufficiently understood to be considered in this connection more than to refer to its possibly great importance (Schmorl) in the alteration of the maternal blood by some coagulating substance. Gynecologists have long recognized tachycardia during the presence of fibroids, and why is it not possible that the active, proliferating muscle cells in the growing uterus should develop a metabolic product which may produce systemic effects, and as in some cases of fibroid a distinct myocardial degeneration, sometimes ending fatally (Riesman). The large size of the uterus is not the cause of the eclamptic attack for this condition is found in other states of the organism where eclampsia does not occur as in the large fibroid and ovarian tumors.

It was shown by Winckel and confirmed recently by Byers and Morisani, that when the fœtus dies in utero, even when the premonitions of eclampsia are present, the danger is greatly diminished if not entirely removed, and when the child is living and premature labor is induced the attacks usually cease. The inference is, that when uterine activity is abolished the possibility of an attack is greatly diminished.

This is further supported by the fact that attacks occur more frequently among pluriparæ, which is due not to distention nor to the presence of one or more additional ova, but results directly from the necessarily increased uterine metabolism.

Perrochet closely approximates the above conditions when he attributes the cause of the eclampsia to a poisoning of the blood (through metabolic products out of the placental circulation, urate poisoning and ptomaines) and further states that the poisoning increases the irritability of the brain.

The clinical history of eclampsia is that of toxemia and according to Zweifel, multiple thromboses and invariably found post mortem in the liver, lungs and brain of all fatal cases which would indicate the presence in the circulation of some product of organic change with blood coagulating power.

It has been shown by Chamberlent's experiments that the toxicity of the blood is increased in both mother and child when the former presents eclamptic symptoms. As Koetenbach says, "The prodromata, gastric and cerebral symptoms, the rapid occurence of serious disturbance of the brain, the post-mortem increase of temperature, the nature and frequency of the nerve disorders that follow and find their analogy in the neuroses consequent upon typhus and diphtheria probably caused by toxalbumens, are scarcely to be explained unless by the theory of blood poisoning."

The post-mortem appearancee also confirm the belief that the toxine works throughout the blood. Schmorl found (in 17 cases) the liver hemorrhagic (sometimes anemic) necrosis of the parenchyma, venous and capillary thromboses in the vicinity of the necrotic foci, but not in the necrotic portion, thus showing that the thrombus represents the beginning of the process. The liver presents nothing pathognomonic of eclampsia, but of infection, degeneration of the liver cells with or without hemorrhage (Bar and Guyisse).

The lungs show extensive venous and capillary thromboses and œdema; the heart flaccid, the spleen enlarged.

The pathological alterations which Jagodinsky found in eight cases of pueperal eclampsia are interesting in this connection. In the cerebral cortex and in the ganglia there was cloudy swelling and fatty degeneration of the nerve cells, in some cells even necrosis. Blood extravasations in the vicin-

ity of the vessels and effusion of white blood corpuscles. The neurogliar cells were increased. He attributes these changes to inflammation, but they easily adjust themselves to the present theory.

Toxines tend to spend their power largely upon the nervous system and in proportion to the development of the nervous system their effects become more perilous. The particular form of nervous system wherein eclampsia will arise most frequently because it is the most sensitive, is the one wherein we find hysteria or epilepsy, neurasthenia or dipsomania, and indeed neuralgias of long standing, and this influence can be transmitted by families and would naturally be increased in the unmarried. It is not sufficient, however, to say that this nervous disposition will explain the vomiting, chorea, faintness, headaches and vagaries of a pregnant woman, nor is uterine reflex satisfactory.

Many of the infectious diseases begin with vomiting, and in them, as in pregnancy, it may be so persistent as to threaten life; here also albumen appears in the urine after a longer or shorter time, and may herald the approach of uremia with eclampsia or coma or both.

It has been definitely settled by many observers that the heart is enlarged in pregnancy, the left ventricle more than the right, it increases during the course of gestation, is at its height at labor and disappears when delivery is accomplished.

If in scarlatina we first see vomiting, then nervous disturbance, then albuminuria, then enlargement of the heart, we would say there was certainly some toxin circulating in the body. Why not in pregnancy? This hypothesis has been greatly strengthened recently by Lange's very interesting article on the thyreoid gland in relation to pregnancy.

His work extended over four years and as the result of his examination of human females, and experiments on pregnant cats, he concludes: "That a hyperplasia of the thyreoid gland is physiological in pregnancy," thus confirming Freund's investigations. "That the hyperplasia has never been observed (by me) in the affection of the kidney peculiar to pregnancy, in chronic nephritis, on the contrary it occurs in pregnancy. Pregnant animals (cats) require for the maintenance of their health larger thyreoids than the non-pregnant. After the total extirpation or the removal of more than 4-5 of the thyreoid, tetanie occurs in pregnant animals which is promptly relieved by administration of thyroiodin. When a remnant of the gland is left large enough to keep a non-pregnant cat healthy, there will occur in the pregnant cat, a kidney disease of rapid course, which sometimes gets well without bad symptoms after the cat litters and at other times produces convulsions and coma. These convulsions are not identical with tetanie and are just as little influenced by the thyroiodin as the coma. Thyroiodin has an undoubted symptomatic influence over the pregnancy kidney of women, whether specific or not remains to be determined."

He examined 133 pregnant women and in all but 25 (3 of which were doubtful) he demonstrated thyreoid enlargement at some period of the pregnancy. In the 18 cases wherein the gland was not enlarged there was absolutely demonstrated "pregnancy kidney," and albuminuria which in 6 instances terminated in eclampsia, and in 4 other of this small number severe headaches appeared, which we have always dreaded as premonitory signs of eclampsia. In two cases where nephritis was present before pregnancy the gland enlarged as usual.

The significance of these findings is very great if they are confirmed and developed by further experimentation. To test the hypothesis let us assume that a product as yet chemically unknown arising from uterine metabolism is poured into the blood and by its presence exercises a specific influence upon the thyreoid gland, whereby a hyperplasia of the latter is gradually produced which may be called "pregnancy goitre" and the glandular secretion, probably thyroiodin (Bauman), which represents most nearly the product of the physiological

activity of the gland, is developed in large quantities. The function of the thyreoid is to regulate metabolism and the product of the activity of the hyperplastic gland is hostile to the uterine product and destroys or neutralizes it. In this case the pregnancy would run a physiological course and exhibit a minimum of the usual disorders of pregnancy. This may occur where the kidneys are healthy or in the presence of a chronic nephritis.

Assume again that for some reason the physiological hyperplasia does not appear, as in the 18 cases recorded by Lange. The uterine metabolic product imperfectly neutralized by the small thyreoid and the insufficient production of thyroiodin circulates through the system and produces the toxæmia, the effects exhibited being one of degree. The kidneys and the bowels assist in the disposal of the toxin. Probably a large portion is absorbed by the kidneys and excreted possibly in an allotropic form.

If in too large quantity for easy elimination by the kidneys, or perhaps from the direct effect of the substance in its passage or by its presence in the blood, albuminuria occurs and pregnancy kidney. The albumen is not the toxin, but an effect of the toxin, an alteration in venous pressure will produce albuminuria, and the circulation of toxins of diptheria and scarlatina will do likewise.

In exceptional instances the kidneys may excrete the toxin without evidence of disturbance. If from excess of production or inefficiency of the thyreoid a gradual accumulation of toxic material occurs, the symptoms of toxæmia slowly appear with the usual signs of intoxication.

Persistent vomiting is the most constant of these and may be the only symptom exhibited throughout the pregnancy. In other cases the system reaches the point of saturation and a trivial incident may suddenly precipitate a maternal eclamptic attack, intra-uterine eclampsia or premature labor, as Olshausen observed in 40 per cent. of his cases.

It is interesting to compare the various periods of the eclamptic seizures with the periods of glandular hyperplasia.

In pregnancy the eclamptic attack is most common from the seventh to the ninth month. The "pregnancy goitre" appears in primiparæ usually in the sixth month, and in multiparæ in the fifth, thus anticipating the possibility of attack by from two to three months, but the greater part of the attacks occur about the tenth month when the uterine metabolism has reached its maximum.

In cases which occur post-partum, the cause may arise from the process of involution, and the consequent increase in the system of cell products, or the toxic product of uterine metabolism locked up in the cells of the uterus may be released by involution or suddenly by the pain activities and thrown in large and unmanageable quantities upon the system.

Further observations and experimentation is necessary to confirm our belief in this hypothesis, but it is certainly a relief to turn from the numerous and unsatisfactory theories of the past to one with so promising an outlook.

THE TREATMENT OF ECLAMPSIA.

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It is unfortunate that the real cause of this terrible affection is yet unknown, but we are grateful for the slight advances in our knowledge that have been made in the last few years. The discovery of toxemias, the valuation of the importance of renal disease to eclampsia, the recognition of the liver as an elaborator of poisons, the role of auto-intoxications, of the placental metabolism, all these have served to clear up previously cloudy aspects of this disease, they have widened the field for research, and they have shown that not one cause, but many causes, either alone or together,

contribute to the production of the accident.

With the exception of the means of prevention however, later knowledge has added little to our fund of information regarding the treatment. We are still in the realm of empiricism. Nearly every mode of treatment presents a dark and a bright side, arguments for and against each sometimes evenly balance so that individual experience or even preference has to decide in a given case.

Cases vary very much, sometimes apparently severe cases get well while milder ones die, one practitioner may meet favorable cases while his neighbor gets the fatal ones. The former will acquire a bounding faith in a particular remedy or mode of procedure, while the latter becomes nihilistic to all methods of treatment. For this reason, perhaps, here more than anywhere else in medicine, enthusiastic reports of success in eclampsia with medication, should be reluctantly accepted.

The writer in the short time allotted, cannot present all the methods of treatment that have been used and discarded, lauded and contumed, nor even all the present methods, by no means few, with the authority, arguments and statistics for and against each, so will describe the treatment as is practiced by him.

Without going into the causation, which was done by the previous essayist, we may say that in all probability eclampsia is due to a poisoning of the blood, from unknown source or sources, which poisons, owing to some impairment of the liver as an elaborator of poisons, or to inefficiency of the kidneys as eliminators of poisons, accumulate in the blood and acting upon an already hyperexcitable nervous system, cause convulsions, by influencing the vaso-motor centers of the brain, convulsions, if the pons and medulla are involved, coma, when the cerebrum is affected.

The latest writers are prone to ascribe most of the cases to a toxemia, relegating the nephritis to second place. In the vast majority of eclamptics there are distinct evidences of nephritis, or at least of the kidney of pregnancy, either in the urinary findings, or at the post-mortem. The writer cannot but think that the kidney of pregnancy is a low grade of inflammation. The toxemia may cause the nephritis, and the nephritis may cause a toxemia by impairing the eliminatory power of the kidneys. Thus a kidney that under ordinary circumstances did satisfactory work, may under the added strain of pregnancy give out completely.

Light is breaking on the subject from a new direction. Lange claims to have found that deficiency of the action of the thyreoid gland may cause albuminuria and toxemia, which disappear on the administration of iodothyrin. His work is not yet near complete, but there is some promise in it, and it deserves more study.

Foremost in the line of prevention is the recognition of toxemia, and close to it, the recognition of renal insufficiency. The perfunctory testing of a single sample of urine for albumen is not sufficient. Even repeated thorough examinations of the urine are not sufficient, as eclampsia has occurred with normal urinary findings. Toxemia may exist and the urine not discover it, but this is very rare. Nevertheless this is the best test we have, its careful examination together with watching for general symptoms will almost invariably give the physician sufficient warning.

Many of the little ills of pregnancy are due to deficient excretion. Headache, neuralgias, insomnia, vertigo, fainting spells, nausea, vomiting, stomach ache, sometimes running under the formidable name of rheumatism of the uterus, can frequently be traced to this condition. May not chorea gravidarum, pernicious vomiting, perhaps the grave anemias be caused by this blood state?

The above symptoms should call the attention of the physician and warn to a careful examination of the patient and the urine.

Just before an eclamptic attack, the pulse is rapid and of high tension, there is

violent headache, dizziness, failure of the memory, a boring pain in the pit of the stomach, flashes of light, the patient says she sees spangles, or may be blind, tinnitus aurium, often vomiting and twitchings of the muscles of the face and extremities. A vigorous venesection and a good dose of chloral will prevent the imminent seizure.

Signs of renal insufficiency are all these, together with œdema of the extremities and face and the findings in the urine, albumen, casts, red and white blood corpuscles, decrease in the urea, low specific gravity, or decrease in the total amount voided in twenty-four hours. The other secretions are usually found also locked up, the skin is dry, thick and muddy, there is little perspiration, the patient has a disagreeable odor, the bowels are constipated, the tongue is coated brown, there is fœtor ex ore.

A healthy pregnant woman should pass sixty ounces of urine daily, the specific gravity should be 1010 to 1016, that is the total solids the same as in the non-pregnant state. When the total solids are less than 30 grams a day, symptoms of toxemia are to be awaited. One will be occasionally surprised to find a patient in excellent health with urine of 1004 sp. gr. From this we can judge that the nature of the toxine is all-important. The urea should show 1¾ to 2¼ per cent. When the percentage of urea goes below one there is insufficient excretion, and means should be adopted to raise it, though sometimes symptoms of toxemia are late in appearing.

In considering the treatment there are three things to be borne in mind. The diet must be ordered so that there is just sufficient nitrogenous matter given to sustain life, in the form that is most easily assimilated, and that will leave the least amount of waste and by-products, that only throw extra work on the kidneys. Secondly, the emunctories should be stimulated to throw off the surcharge of poisons already in the blood, and kept acting freely throughout pregnancy. Thirdly, should the above treatment not have the necessary effect, should the symptoms of renal insufficiency increase, or should the signs and symptoms of a real nephritis appear and grow worse, then the induction of premature labor is not alone justifiable, but strongly indicated.

In aggravated cases of toxemia and where the kidney is involved in even a moderate degree, it is well to place the patient on an absolute milk diet at the start. The results of this are excellent, in other hands than those of the French, who are the most ardent supporters of the plan of treatment. As the condition improves, starches may be added to the diet, then the proteid vegetables with the vegetable oils and butter. If the improvement is progressive full vegetarian diet with milder fruits, and not more than one egg a day, may be allowed. The first meats eaten should be the white meat fishes, and the white meat of chicken and turkey, but these only when recovery is about complete, and sparingly.

Spices, condiments, tea, coffee, alcoholics, beef, veal, pork, are strictly forbidden. The patient should drink a great deal of water in addition to the milk, and the various mineral waters may be used. Buttermilk is an excellent beverage for pregnant women, as are also matzoon and koumiss.

The emunctories are attended to as follows: Begin with a brisk purge, saline or compound cathartic pill, and keep the bowels open with an aperient salt or water. It is not well to give salines continuously over a long period, they should be varied with the vegetable laxatives, and the writer uses very often a combination of ext. cascaræ sag. fl., tr. rhei arom. tr. nuc. vom. as a general tonic laxative.

Before going to bed and on arising the patient is instructed to drink one or two glasses of water, salted or sugared to taste; this is both laxative and diuretic.

Diuresis is favored by the ingestion of large amounts of fluids, by buttermilk, the alkaline diaphoretic mixtures, and if necessary by the old well known general emunctory stimulant, calomel, squill and digitalis.

The skin is kept free from chill by

woolen undergarments, even in summer. Eclampsia has occurred after exposure to cold. Excretion by the skin is favored by the hot bath and subsequent rest in bed, and in aggravated cases by the hot wet pack, or the alcohol pack. Patients with weak hearts must be carefully watched during these packs. The writer has had several admonitory experiences with these powerful methods of inducing perspiration. Jaborandi is to be avoided even when the patient is conscious, as it is dangerous, and unnecessary.

A valuable means for starting the kidneys and skin, is the sub-dermal injection of normal saline solution. It is almost never necessary in the simple toxemia of pregnancy, but comes to its greatest usefulness when, owing to threatened or actual eclampsia, it is necessary to start these two functions quickly.

The patient should have a good supply of fresh air, to keep the excretory action of the lungs in play, and she should rest a good part of the day in bed or on the sofa, as exertion throws increased work on the kidneys. In severe cases absolute rest in bed, daily hot packs, exclusive milk diet may have to be ordered. The induction of premature labor, by this, aiming to remove the fundamental cause of the whole trouble, should be held as a powerful curative in reserve.

When treatment carried out in the lines herein laid down has produced insufficient amelioration of the symptoms, if the evidences of renal insufficiency persist or grow worse, and especially if eclampsia is threatening, the pregnancy should be terminated.

The best method is, anesthesia, local asepsis extreme, Barnes' bag in the cervix, repeated if necessary till the pains are inaugurated. One word of admonition, when the eclampsia is threatening or has broken out, every manipulation of the genitals, examination, catheterization, etc., should be done under anesthesia. Barnes especially emphasises this.

After the attack has occurred. The patient now needs the continuous attendance of her physician, and it is well to have plenty of assistance to divide the responsibility as well as the work which is very often quite onerous.

A. In all cases. (1). Protect the patient from the vehemence of the convulsion. Absolute quiet in bed, surround with pillows, remove false teeth, have a gag near at hand to put between the teeth to avoid injury to the tongue. A clothes pin covered with a soft cloth and placed between the jaws answers very well. The room should be darkened, all noises rigorously excluded, no jarring of the bed, slamming of doors, talking, moving about, etc., and the patient should be disturbed not more than is absolutely essential. These are not minor points, but are important, as convulsions are caused by the slightest external impression or irritation.

(2). Narcotize the woman. The arguments as to the utility and safety of this procedure are not yet closed, but they seem to be tending toward the recognition of its value in the majority of the cases. Give one quarter of a grain of morphine hypodermatically every thirty minutes till 3-4 grain are taken. Give 45 grains of chloral per rectum and repeat in two hours if necessary. Chloroform is now recommended only when one convulsion follows the other in rapid succession. Under the above treatment this will not occur so the writer desires the use of chloroform restricted to anesthesia for operative purposes.

(3). Shall bleeding be practiced? The pendulum is swinging back. In cases where the convulsions recur in spite of the above medication, where the pulse is strong and full, face flushed or even cyanotic, where in short the case may be called sthenic or apoplectic, bleeding will do good. It is not necessary in all cases, but when it is, should be practiced till there is a perceptible effect on the pulse. In cases where the pulse is weak and running or absent, where cyanosis and pallor are combined, where the case is of the asthenic variety, the utility of bleeding is doubtful. Stimulation is indicated, strychnine, nitro-

glycerine, camphorated oil. Where the right heart is engorged and pulmonary edema threatens, bleeding together with powerful cardiac stimulation, may tide the patient over. The pulse here is not the guide. In general it may be said regarding venesection in eclampsia, that it has a place in the treatment and an important place, but that careful discrimination should be used as to the cases in which it is practiced, the amount of blood withdrawn, the period at which it is drawn, and in making deductions regarding the effect.

(4). Aid elimination. The means given previously may be employed adapting them to the conditions present. If the labor is in active progress little can be done with hot packs, nor is it desirable to have the field of operation flooded with fluid feces, the result of croton oil. Diuretics are too slow during active eclampsia. An excellent remedy, applicable at all stages of labor is the subcutaneous injection of normal saline solution. The effect on the kidneys is remarkable. It has been used in combination with venesection, to supply the place of blood withdrawn, and is called sometimes, "washing the blood," theoretically a good procedure. When labor is not in progress, and during the puerperium, all the efficient eliminatory measures may and should be employed.

B. Treatment during pregnancy. In a given case of eclampsia, when labor has not yet begun, try to tide the patient over the present danger by the means just given, and induce labor after the tendency to convulsions is past, or, wait till labor comes on naturally. In the modern trend toward operative measures those successful cases, not few, where expectancy and indication lead to a favorable termination, are being ignored.

Theoretically if one should induce labor when eclampsia is threatening, one should end the pregnancy when it has broken out. Clinically, however, one can often overcome the convulsions, the fœtus may die, and be expelled, and what is not so rare, that it may be ignored, the patient may go on to term and have a living child.

The dangers of injury and shock in the rapid dilatation and emptying of the uterus, and the many irritations to the already overwrought nervous system made by it, may more than outweigh the advantages of the immediate termination of pregnancy. Should medicinal treatment have no effect, the convulsions getting more frequent, longer, harder, or the pulse getting more frequent with a rising temperature, induce labor. Puncture the bag of waters first. In a third of the cases, the convulsions cease, in another third they become less strong, but in the rest they do not improve. Labor usually comes on at once, especially if the fits are violent. They stimulate the uterus, and labor pains are often strong; if necessary to hasten the labor dilate the cervix with Barnes' bags, or the colpeurynter.

C. Treatment during labor. All authors are agreed that during labor one should terminate the process as soon as possible. The greatest differences exist, however, in regard to the amount of force to be employed. Accouchment force should almost never be used. By this is meant the rapid dilatation of the cervix, incising it if necessary, and the immediate extraction of the child.

The writer cannot agree with those who say that it is possible, *safely*, to stretch, tear and cut the cervix open and extract the fœtus in thirty minutes to an hour. Unless the upper part of the cervix is effaced, that is, drawn up into the body of the uterus (carrying the circular artery with it) the dangers of rapid dilatation by any of the means employed are great. Laceration of the cervix, even into the peritoneal cavity, hemorrhage, even fatal, later sepsis, have occured often enough to warn against this procedure.

When the cervix is effaced, and the os begun to dilate, the case has an entirely different aspect, then the dilatation by the hand or incision are comparatively without danger. It must never be forgotten that

stretching cannot replace the natural process of effacement and dilatation, and that it is therefore in the highest degree desirable in cases where operative delivery is to be made, to wait till the cervix is thinned out, that is, shortened and the dilatation at least beginning, before it is attempted. The circular artery is then out of reach and the incisions as given by Dührssen or the lacerations are not so dangerous.

The only means to produce this effacement of the cervix is the uterine action. Stretching from below, or pulling rubber bags through will not do it except insomuch as they produce uterine contractions. In cases therefore where rapid delivery is indicated the writer uses Barnes' bags and the colpeurynter to dilate the cervix as they at the same time evoke pains and hasten the shortening of the cervix. Manual dilatation of the cervix is accomplished by a method similar to that described by Edgar of New York, which the writer has used for five years with success varied by a few failures. The cervix will sometimes tear under the manipulations so that recourse must be had to incisions, or it will not give way to any justifiable force, when the scissors may again be necessary.

The delivery is best accomplished by the forceps. Version is undesirable in eclampsia. If the child is dead, by all means perform craniotomy.

If there are perineal of vaginal tears, repair them; if cervical it is better to leave them alone, unless hemorrhage gives the indication. The delivery of the placenta is as usual, contraction and retraction of the uterus are good, post-partum hemorrhage is not to be feared. Do not tampon the uterus if at all avoidable.

The child is not seldom asphyxiated, it may be narcotized by the drugs given the mother, and it may have convulsions similar to those of the mother.

It is well to remember that in eclampsia labor is usually rapid, and the patient being unconscious the baby may be born unexpectedly under the bedclothes. It is well to leave the case to nature if the labor is progressing rapidly, and if the convulsions are not too severe, if the color of the patient is not cyanotic, if the pulse is good, the fever not above 102 degrees, and there be no signs of edema pulmonum.

As soon, however, as the cervix is completely dilated there is usually no need to wait longer and the delivery may be completed under chloroform. Only in the gravest emergency should forcible means to empty the uterus be employed. Cæsarean section has no place in the treatment of eclampsia unless the woman is about to die and the child is alive.

From the above it may be seen that the writer leans toward an expectant plan of treatment of eclampsia, but it will be seen also that under proper indications on the part of the mother active, decisive, operative measures are advised.

D. Treatment during the puerperium. Those measures given under heading A., i. e., those appropriate to all cases, come into play here to the fullest extent. The eliminators must be stimulated to the full safe limit. Narcotics must be used more sparingly now, unless the convulsions are very violent, as it seems that they increase and prolong the coma, and lock up the secretions. During the labor where the irritation from the genitals is being kept up, narcotics are necessary, and we must take their bad effects with the good. No drug is an unalloyed good.

Saline solution may be given in large doses, and oxygen, which is supposed to aid elimination by the lungs. The writer has used oxygen in only one case, of puerperal eclampsia, but there was no effect, not even on the cyanosis.

Veratrum viride has been much extolled as a specific for eclampsia, and it did for a time take that part of the place of bleeding that chloroform did not usurp. Now bleeding is taking its place again to the disuse of chloroform, and veratrum is being less used than it was. It is said that by this drug the pulse may be kept at 60 and then no convulsions can occur. The writer has had but little recourse to this drug, but in

one case the fits recurred even while it was being pushed to its physiological effect. It may be used alongside of other remedies.

In general the treatment of this grave accident is much the same as the treatment of any other disease, not one drug, or course of procedure, for all cases, but a proper individualization of the cases and a careful application of the method suited to each.

COMPLETE PROLAPSE OF AN OVARIAN TUMOR THROUGH THE ANUS. OPERATION. RECOVERY.

BY J. A. BAUGHMAN, M. D., NEOGA.

The rarity of this case is one of the main reasons for reading a report of it before this assembly:

Mrs. M., aged forty, weight 120 lbs. passed the menopause, and fairly well nourished had for many years been invalided by half concealed symptoms that proved to be due to a prolapsed rectum, which organ protruded to the extent of twelve centimeters. It was found that the three coats of the bowel were included in the protuberance as well as a hard round tumor about five centimeters in diameter, which lay in the anterior fold of the rectal projection or in other words in the greatly enlarged pouch of Douglas. This tumor was freely movable, exquisitely tender, hard and rather smooth. It was attached to a long pedicle that reached up into the pelvis and proved by its proximal attachment to be the ovarian ligament and fallopian tube. The diagnosis prior to the operation was that the tumor was a prolapsed malformed ovary of the right side.

As there were symptoms pointing to a left oöphoritis an ovariotomy was done after the tenets of modern teachers. The left ovary was removed and on the right side what remained of the ovary and what was found to be an ovarian tumor five centimeters in diameter, were excised. We hoped to do a ventro-fixation of the rectum at this time, an operation according to Matthews, which is gaining some favor at present, but owing to a difficulty with the anesthetic, this was abandoned, and later on the rectum was amputated.

The recovery from the ovariotomy was rapid and uninteresting except that the rectum for some months retained its normal position, perhaps held there by temporary inflammatory adhesions. When these absorbed the bowel again protruded as badly as ever and an amputation of the projecting portion was made. After placing the patient on her back in the lithotomy position and giving the parts in the field of the operation a strictly antiseptic cleansing, the protuberant part of the bowel was grasped by four mouse tooth artery forceps placed equidistant about the corona.

The forceps served as guides as well as retainers in the course of the operation. The incision was first made transversely across the front of the bowel close to the margin of the anus and carried only about half around its circumference at first. Some of the anterior sutures being placed before the entire tube was severed. Not severing it all at one time was a precaution to prevent troublesome retraction of the upper end of the organ. The sutures were of cat gut for the serous coat and silk for the muscular and mucous coats, the interrupted stitch being used.

After having seen profuse hemorrhage in some cases of hemorrhoids our anticipation of severe bleeding in this case was not realized as at no time was a haemostat necessary, other than a rather hot antiseptic solution used in constant irrigation of the parts during the progress of the operation. The recovery was again rapid. Everything in the case was commonplace except the unusual position of the ovarian tumor, a condition calculated to puzzle and afterwards surprise the operator. Possibly the protrusion of the three coats of the rectum is not strictly speaking a commonplace condition as in the vast majority of cases it is only the inner coats of the organ that protrude.

The patient is now ten months after the last operation, a working house keeper enjoying good health.

PROCEEDINGS OF THE STATE BOARD OF HEALTH.

At its meeting in Chicago, July 11, '99, the Board adopted the following sensible resolutions concerning the good standing of medical colleges:

Resolved, That the phrase "medical college or institution in good standing" in the first paragraph of Section 2, of the Act to Regulate the Practice of Medicine in the State of Illinois, in force July 1, 1899, is hereby defined to include only legally organized, properly conducted medical institutions, having a sufficient and competent corps of instructors, and ample facilities for teaching dissections, ambulatory and hospital clinics, which conform to the requirements relative to the preliminary education of matriculates, the course and period of study, the number, character and length of lecture terms, the duration of attendance on hospital and clinical instruction, which obtain in the majority of medical colleges in the United States.

Resolved, That the Illinois State Board of Health, will not consider in good standing, after January 1, 1900, any medical institution which does not require of all students (excepting graduates of reputable colleges of Arts and Sciences, or of reputable colleges of Dentistry, Pharmacy or Veterinary Medicine, to whom one year's advance standing may be granted) as a condition of graduation, an attendance on four full courses of lectures of at least six months each, in four separate years, no two courses commencing or ending in the same calendar year of time.

Resolved, That no medical college issuing a catalogue or announcement in which are contained misrepresentations respecting its teaching, clinical or hospital facilities, its faculty or its courses of study, or false representations as to the number of students matriculated or in attendance, will be regarded as in good standing.

Also this resolution concerning the recognition of medical colleges in Illinois:

WHEREAS, Section 2, of an act to Regulate the Practice of Medicine in the State of Illinois, and to repeal an Act named therein, approved April 24, 1899, in force July 1, 1899, gives the State Board of Health discretionary power as to granting certificates without examination to graduates of legally chartered medical colleges in Illinois in good standing as may be determined by the Board, and,

WHEREAS, it is evident, notwithstanding the discretionary power granted to the Board, that the true intent and purpose of this Act is to require all persons to prove their qualifications to the State Board of Health by passing an examination; therefore be it

Resolved, That all applicants for a State Certificate to practice medicine and surgery in the State of Illinois, who are graduates of medical colleges in good standing as may be determined by this Board, shall, before receiving a certificate, be obliged to pass an examination such as contemplated in Section 2, of an Act to Regulate the Practice of Medicine in the State of Illinois, in force July 1, 1899.

The first regular examination of the Illinois State Board of Health under the law in force July 1, 1899, will be held at the Great Northern Hotel, Chicago on August 1st, 2d, 3d, and 4th, 1899.

The following rules were promulgated:

Applicants failing at one examination cannot be re-examined until six months have elapsed.

The filing of an application or the taking of an examination does not entitle the applicant to practice medicine. The only legal right to practice is the possession of a Certificate from the State Board of Health.

By order of the Board.

J. A. Egan, M. D.,
Secretary.

Dr. E. C. Jones has resigned as a member of the Montgomery County Board of Pension Examiners, and J. R. Seymour, of Raymond, has been appointed to fill the vacancy.

The Illinois Medical Journal

PUBLISHED MONTHLY.

Official Organ of the Illinois State Medical Society.

Committee on Publication:

E. W. WEIS, M. D., Chairman, Ottawa.
H. N. MOYER, M. D., Chicago.
G. N. KREIDER, M. D., Springfield.

All communications should be addressed to E. W. WEIS, Secretary, Ottawa, Ill.

All remittances for subscriptions should be sent to Dr. G. N. Kreider, 522 Capitol Ave., Springfield, Ill.

The Society does not assume responsibility for any statements or opinions published in this journal.

Entered at the Postoffice at Springfield, Ill., as second-class matter.

Springfield, Ill., August, 1899.

THE ARRANGEMENT OF THE PROGRAM.

When Pingree was a candidate for governor of Michigan, he was asked regarding his principles. "Principles!" he is said to have replied, "My principles are to give the people what they want." This idea should prevail in the arrangement of our program for the next meeting of the Society. The members should have what they want. They should hear the men they want to hear. They should hear them speak on subjects in which they are interested. The section officers are not figureheads. They are the servants of the Society, anxious to know and to execute the will of the membership. The members, therefore, should speak up early and often. They should say what they want. In this manner only can be arranged a satisfactory program.

Certain details may be properly considered. The program should not be utilized as a means of advertisement for members who announce a paper and never intend to present it. Such men should be "spotted" and very promptly "turned down." At the last meeting of the Society an interesting and important feature was inaugurated in Section 11. In many instances an abstract of the paper was published in advance. This feature was introduced at the Columbus meeting of the A. M. A. by one of our members, and was found so desirable that, by resolution, it has now become a requirement in our national body. If a man cannot furnish an abstract of his paper before the program is published, it may be assumed that he has no paper to present, or that it is unworthy of presentation. It is an insult to the intelligence of our membership for any man to presume to speak without adequate preparation.

The program should chiefly be made up of papers of general and practical interest. The specialist may dilate on some moot point of which the average practitioner knows nothing and cares less. It is respectfully submitted that the gentleman's ambition might be gratified and his purpose better subserved by having him properly labeled and put on exhibition with the other exhibits. By this method much valuable time could be saved.

The program should not contain the names of too many Chicago men. Of course every man in Illinois believes in Chicago, but it is not the entire State. The medical men in Chicago have ample opportunity to disport their knowledge. Some of them do not hesitate to do so, almost *ad infinitum* and in some instances *ad nauseam*. They should curb their impetuosity when away from home. They should let the others have a chance. Strange as it may seem, they may learn something if they are attentive.

Here are a few suggestions in reference

to the arrangement of the program. There are others which other members of the Society can offer. Let us have them.

D. L.

JUBILEE MEETING.

The next meeting of this Society to be held in Springfield in 1900, will be the fiftieth anniversary, and therefore the Jubilee Meeting. It is meet and right that this meeting should be held on the spot where it was born, so that the wonderful contrasts in medical society life and in the art of medicine in general, should appear the greater. There are still with us a few of the pioneer physicians of this State who were present at that first meeting in Springfield, and when we know that they had to travel miles and miles, some of them almost across the entire State in buggies or horseback to be present at those first meetings, the contrast of professional enthusiasm and love of the medical art with that of to-day is marked, and the physician of to-day suffers somewhat by the comparison.

* * * * * *

It is the desire of the officers to make the next meeting the most memorable in the history of the Society, and to do so, we are anxious to receive suggestions from every member and trust that such will be made. It must be borne in mind, however, that the scientific work of the Society cannot be interfered with and it is hoped that suggestions will be upon this line. The section officers are already actively engaged in the preparation of the program, but as will be seen in the article signed D. L., they desire to know more fully the wishes of the members, and we sincerely trust that every member will consider it his duty to explain his views on the subject. W.

PROFESSIONAL PROGRESS.

Great surgeons existed in all times. They were great in their day. The mechanics, the art of surgery, has made but little progress in a third of a century. Then came modern bacteriology, the culture-plate of Koch and the culture-tube of Esmarch, the process of staining bacteria, and improvements in the microscope. Following these came the anti-septic methods, then, later, the aseptic *technique*. Add to these the hæmostatic forceps and the educated nurse and we have the crowning achievement of the century—the surgery of to-day. All this did not spring up in a night. It is the outgrowth of infinite labor, of tireless research, of master minds.

* * * * * *

The Post-Graduate School has come to stay, because it fills "the long-felt want." Its usefulness begins where that of the College leaves off; it ends only with the ending of all earthly things. It infuses new life into the wearied practitioner, lifts him out of the rut, holds him in touch with the advancements in medicine all along the line, and with the best thought and best practice of the day. It keeps him truly abreast of the times. For every medical college there should be a post-graduate school, and its seats should always be filled. Laziness and its twinship, indifference, have no place where enlightened conscience is astir. H.

Chief Surgeon M. H. Crawford, United States Navy, examining surgeon at the recruiting office in the Masonic Temple, Chicago, and chief surgeon on the Boston at the battle of Manila, received recently one of the medals ordered by Congress for every man who fought under Dewey. On one side is a bas relief of Admiral Dewey, on the other an inscription.

TRANSACTIONS OF

THE ILLINOIS STATE MEDICAL SOCIETY.

PROCEEDINGS OF THE FORTY-NINTH ANNUAL MEETING HELD AT CAIRO, ILLINOIS, MAY 16, 17 AND 18, 1898.

SECOND DAY—MORNING SESSION.

The Society met at 8:30 A. M., and was called to order by the President.

The President: We will now listen to the report of the Committee on Publication, which will be read by the Secretary.

The Secretary read the report, as follows:

REPORT OF THE COMMITTEE ON PUBLICATION.

To the President and Members of the Illinois State Medical Society:

Your committee has the honor to report that it awarded the contract for printing six hundred (600) copies of the last annual volume of the Transactions to the lowest of four (4) bidders, the Ottawa Free Trader Printing House at a net price of $725.13.

Four hundred ninety-seven volumes were delivered to members by mail and express; twenty volumes to the libraries of the various public institutions of the state and exchanges with other state medical societies.

A copy of the official program was sent to every member of the society and to the various medical publications of the state and St. Louis.

Pursuant to an order of the executive committee there were printed and mailed to the physicians of the state eight thousand (8,000) preliminary programs. An accompanying letter earnestly urged their affiliation with our society.

Again is your committee pleased to report that the Transactions were issued by August 1st although the book contained 130 pages more than that of the previous year.

The chairman begs to state that owing to the fact that the legislature had before it some bills that the committee on legislation could not see to, he with the President took it upon themselves to urge proper action. This involved considerable correspondence which we think gave very satisfactory results.

The President: You have heard the report. If there is no objection, it will be adopted.

The President: We will listen to the report of the Committee on Medical Societies, Dr. C. W. Hall, of Kewanee, Chairman. Dr Hall read the following:

REPORT OF THE COMMITTEE ON MEDICAL SOCIETIES.

Mr. President and Members of the Illinois State Medical Society: Your Committee on Medical Societies has done little or nothing in the matter of organizing new societies this year. A careful survey of the field convinces us that better work could be done this year through societies already existing than could be done by organizing new ones. While we cannot demonstrate our work as well as we did last year, we, as a Committee, feel that our efforts have not been fruitless.

A few more societies should be organized, but the time apparently is not ripe now. Sincere efforts have been made, but no organizations perfected. We still need a society in the extreme Northwest, one in or near Iroquois County, and three or four county societies in the Southern portion. We are quite well supplied with societies, as a glance at the accompanying map will show. The circle represents county societies, the triangle, the district, and the square, city societies. The district societies fortunately are situated so as to compensate for the loss of county societies. In several instances a district society covers a territory better than several county societies on account of the direction of the railroads.

As before stated, our main work has been with existing societies. All have been corresponded with and some visited. We are glad to state that generally the organizations are in healthful condition. We find that most of them still consider the scientific part of the programs, the most vital part, yet we are obliged to state, in a few

instances the social part is more prominent. In the latter class, as one of my colleagues says, "They turn out better to a funeral than they do to a meeting." It is not the purpose of this report to specify any societies in either class, but to give facts.

Our correspondence has been most interesting and reveals a regard for the minor organizations which is not approached in this organization. They seem to regard the local societies as more practical. This probably is not true, but greater freedom exists in discussion and presentation of ideas and the rank and file go away satisfied. We have 48 county societies, 16 district, and 22 city societies, distributed quite evenly over our State. As near as we can estimate, about 4,000 of the regular physicians of the State belong to some medical organization. This number is still far short of what it should be, and we feel that the matter of increase lies with the local societies rather than with this Society or any of its Committees. We recommend that each local society appoint a Committee on membership whose duty will be to secure as members all reputable regular physicians residing in their district. Many societies have such a Committee.

Another matter which directly concerns this Committee is the success of each meeting in getting out the members. We learn that those societies which meet the most often complain the most of small attendance. This does not apply to city societies. In other words, the county societies, which meet annually or semi-annually, report the best meetings. We have advised societies that meet often with poor attendance, to have fewer meetings, for one or two good meetings a year are better than six poor meetings. Most of us belong to other societies than our County Society, and with one or two county meetings, our district and State meetings, we have attended about as many annual meetings as we can.

At the next Annual meeting, the Fiftieth Anniversary of the formation of this Society will be celebrated. At that meeting it is to be hoped a report can be presented from this Committee, that the medical profession of the State of Illinois has been so completely organized that no more could be desired in the matter of societies, and that a large number of physicians may be added to the list of members. Let us hope for a report that will be befitting our fiftieth birthday.

To the list of affiliated societies should be added the following:

The Chicago Pediatric Society (organized this year),
The Chicago Laryngological Society,
County Hospital Alumni Society,
North Chicago Medical Society,
Chicago Therapeutic Society.

The President: You have heard the report of the Committee on Medical Societies. What disposition will you make of it?

Dr. C. W. Hall: I desire to present a matter to the Society before this report is adopted or finally disposed of. Some action should be taken out of respect to the society I am about to mention. I have here a request from the students of the College of Physicians and Surgeons of Chicago wanting to affiliate with the Illinois State Medical Society. As I understand it, the real motive is to affiliate with the American Medical Association. It might be well to mention that this society consists mostly of under-graduates. I will read Article 3 from their By-Laws, with reference to members, so that you can get an idea of what this Society consists. (Read extract from By-Laws.)

According to our Constitution, they cannot affiliate with us, as I interpret the Constitution, and they must, therefore, be members of the regular medical profession. Yet I feel, Mr. President, that we ought to pay some attention to this request. I move, therefore, that we invite this Society to comply with our Constitution, and then we will be pleased to affiliate with them. Seconded.

Dr. O. B. Will: I do not quite understand what they mean by affiliation. We have no provision for any sort of affiliation that I know of except to become actual members of this organization, complying with all the requirements.

The President: That is all we can do in the matter.

The report with the motion was adopted.

The Secretary: While we are considering the subject of medical societies, I wish to bring up another matter Section 1, Article 3, of the Constitution, reads: "All regular resident members of the County and District Medical Societies within the State, organized in harmony with the spirit and objects of this Society, are eligible to membership." It does not say anything about any other societies than County and District, and I desire to give notice to an amendment to the Constitution next year so as to include City societies.

Dr. Kreider offered the following Proposed Amendments to Article III of the Constitution.

Section 8. Associate members shall be those members of the medical profession who are not members of a regular county, district or city medical societies within this State, but who are in good standing in the community in which they reside, and wish to endorse the objects of the society and subscribe for its publications. Their names and qualifications for Associate membership shall be submitted by the Registration Committee to the Judicial Council before they are placed on the list of Associate members.

Section 9. Corresponding members shall be distinguished members of the medical profession residing in other States of the Union, territories, island possessions or foreign countries who shall be deemed worthy of the honor. They shall be furnished with a diploma of their membership and entitled to the publications of the Society at one-half the usual price.

The Secretary read telegrams from the secretaries of the Missouri State Medical Association and the Iowa State Medical Society, extending cordial greetings.

On motion, the Secretary was instructed to reciprocate these greetings by telegrams.

The report of the Treasurer was called for, and was read by Dr. Kreider, as follows:

TREASURER'S REPORT.

Dr. George N. Kreider, Treasurer, in account with the Illinois State Medical Society for the year 1898.

Dr.

To cash on hand May 16, 1898..	$910 71
Receipted as per Book No. 1....	282 00
Receipted as per Book No. 2....	318 00
Receipted as per Book No. 3....	111 00
Receipted as per Book No. 4....	300 00
Receipted as per Book No. 5....	300 00
Receipted as per Book No. 6....	144 00
Total receipts	$2365 71

Cr.

Vou. No. 1, printing and expressage, Drs. Pettit and Weis...	$32 96
Vou. No. 2, clerk at Galesburg meeting	6 00
Vou. No. 3, printing for Galesburg meeting	6 00
Vou. No. 4, printing for Secretary	15 00
Vou. No. 5, Whitford, stenographer	115 60
Vou. No. 6, Dr. Cowan, expenses Galesburg meeting	38 00
Vou. No. 7, Treasurer, services.	50 00
Vou. No. 8, printing transactions, on account	200 00
Vou. No. 9, printing transactions, and Pettit	300 30
Vou. No. 10, printing transactions (total $725.13) and job work	332 03
Vou. No. 11, expressage, etc...	95 77
Vou. No. 12, Secretary, services...	200 00
Vou. No. 13, printing for committees	3 00
Vou. No. 14, J. W. Pettit, legislative committee	150 00
Vou. No. 15, W. B. Ridgely, postmaster, Treasurer's stamps	15 00
Vou. No. 16, printing, expressage, etc...	77 63
Vou. No. 17, Illinois State Journal, Treasurer's printing	8 77
Total expended by vouchers.	$1646 06

Certified certificate to balance	719 65
	$2365 71

Approved May 17, 1899.

J. T. McAnally,
O. B. Will (acting pro tem.)
Auditing Committee.

I might say in addition, that there is to come out of this unexpended balance $50 for the Legislative Committee. This, for the first time since I have held the position of Treasurer, scrapes the bottom of the Treasury. This amount of money, as you all know, has been well expended, and we are none the poorer for having spent it in securing some legislation which has been accomplished during the past year. In the absence of Dr. Moyer, I will ask the President to appoint some one in his place.

The President: I will appoint Dr. O. B. Will on the Auditing Committee.

The Treasurer's report was then referred to the Auditing Committee.

The President: We will now hear the report of the Committee on Medical Legislation, Dr. J. W. Pettit, of Ottawa, Chairman.

REPORT OF THE COMMITTEE ON MEDICAL LEGISLATION.

Your Committee on Medical Legislation beg leave to report as follows: After three years' strenuous effort your committee, assisted by the profession and the regularly organized medical societies, have succeeded in placing among the statutes of this State a medical practice act which is regarded by them as a distinct advance over all previous efforts in medical legislation. While the law as finally passed was not all that could be desired by the profession, it is still such a marked improvement upon the present most defective act that your committee feel that the public is to be congratulated upon having a law which will go far to remedy some of the grosser evils incident to organized charlatanry and illegal practice which have grown to such enormous proportions of late years. We feel sure that the practical physicians throughout the State, who are not aiming for the ideal and the impossible, will see in the new statute a distinct advance over former legislative efforts to raise the standard of professional requirements.

Immediately after the close of the last annual meeting, your committee as then constituted, organized and began perfecting a working plan by which the profession as a whole could bring its influence to bear in furthering medical legislation. At the outset, they were agreed upon one proposition, namely, that however defective legislation that was secured might be, the chief aim should be to separate the license from the degree, as this was regarded the foundation for any improvement in the medical practice act. A sub-committee was formed which co-operated with representatives of the Homeopathic and Eclectic practitioners. Your committee finally drew a bill which was submitted to various medical organizations and after meeting with their approval was finally introduced early in the last session of the legislature. Early in the session, it became apparent that two provisions in the bill, to-wit, the creation of a new Board and an annual renewal of the license, if insisted upon, would result in the whole matter being laid upon the table, thus defeating all legislation for the next two years. In addition to these, there were several minor points in the bill, while not material, it was feared might seriously impede the progress of the act through the legislature. Accordingly, a new bill was drawn which was substituted for the original measure. Your committee have been charged with acting in bad faith in substituting a bill for the one which was agreed upon by the joint committee of the various societies having the matter in charge. These charges, when traced to their source, are found to originate in a following which is hostile to any medical legislation, having for its object the elevation of the standard of professional requirements. The reading of some of the criticisms levelled at your committee would lead one to think that it was the committee who enacted

medical practice acts and not the legislature. Superfluous as it may seem, we venture to remind the Society and the profession that it is the legislature of Illinois that passes laws, and a bill once introduced and referred to a committee is out of the hands of those who have prepared it and urged its adoption. It is then subject to amendment or change of any kind, and no committee can go before a legislative body to initiate legislation, that will know beforehand just how they will come out. The bill as framed by the enlarged committee was introduced exactly as agreed upon, although no representative of the Homeopathic or Eclectic committees was present either then or at any stage of its progress.

The bill as finally passed contained all of the essential provisions of the original, with the exception of the creation of an examining board and the renewal clause. The demands upon the legislature for the creation of new boards were so numerous and many of them so absurd, as to bring the whole system into disrepute, and it was thought by your committee that to insist upon the adoption of this clause would simply secure nothing at this session of the legislature. A practical solution was found by placing the licensing power in the hands of the State Board of Health, where it has been for nearly a quarter of a century. The effect of the new law in that respect is only to strengthen the hands of the Board and to arm them with some real power which was supposed to reside in the old medical practice act, and which has been eliminated by numerous adverse judicial decisions.

The renewal clause was regarded by your committee as the most effective portion of the proposed act, but as its force was not clearly apprehended, it was opposed by so many in the profession that it was necessary to eliminate it from the bill. It was with reluctance that your committee consented to this change, as it is believed by them that no legislation which will deal effectively with fraudulent practice or overcome illegal registration can be enacted, without some such clause. While it burdens the profession with an annual duty and places a small annual tax upon each of us, yet its benefit to the people would have been so considerable and its effect so salutary in raising the standard of medical practice, that it was thought we could well afford the sacrifice.

Your committee is convinced that the passage of an adequate medical practice act is scarcely to be accomplished at a single session of the legislature, but the agitation must be continued a number of years. It will be easier to amend the existing statute than to pass a bill *de novo*. Taken as a basis for future amendment, the present law is an admirable one, and with the addition of one or two sections and a few minor clauses, it will become one of the best medical practice acts in the United States. The administration of the present law is in the hands of the State Board of Health, and much depends upon the personnel of that body. We earnestly recommend that this Society take some action which shall aid the Executive in properly filling vacancies in the Board. If medical societies will but manifest more interest in medical appointments, it would be better for the public at large, and the profession would not so frequently complain of inadequate representation in medical bodies.

Finally, your committee would especially urge that the organization of the profession, accomplished at so great an expense of time and effort, should be maintained and perfected to the end that some amendments may be incorporated in the present medical practice act, and that a special board of examiners should be secured to enforce its provisions, thus leaving the State Board of Health free to attend to much needed State sanitary work.

All of which is respectfully submitted.

J. W. Pettit,
Harold N. Moyer,
George N. Kreider.
Committee on Medical Legislation.

On motion of Dr. Sudduth, the report was adopted.

[CONTINUED NEXT MONTH.]

Correspondence.

To the Editor:

The quackish interests of the state evidently think they are hit hard by the new Medical Practice Act. The irrepressible and irresponsible "Dr." T. A. Bland, from nowhere in particular, a leading light in the Independent Medical College of Chicago, which under various aliases has been selling diplomas and whose business is now seriously threatened, is attempting to organize the quacks of the state to test the constitutionality of the Medical Practice act now in force. He has issued a letter under date of July 15th, to the profession in which he sets forth that the present bill became a law through chicanery and fraud. It would seem superfluous to pay any attention to the opposition of men of this ilk, but when it is stated that by similar means he succeeded in duping hundreds of reputable physicians last winter, it may not seem unnecessary to warn the profession to pay no attention to anything that may emanate from that source. Every statement made in the circular sent out is untrue and his object is to mislead and confuse the better element of the profession. The fact that the law is attacked by men of this class should be regarded as the strongest argument in its favor. Medical journals circulating in this state should give this matter wide publicity.

J. W. Pettit,

Ch'm. Leg. Com. Ill. State Medical Society.

Editor of Journal:

I have been informed that there is a report in circulation that I signed a petition asking Dr. Egan not to prosecute the Magnetic healers who are holding forth here. To my knowledge such a petition was never circulated, at least I never saw one of that character; but I, with several other physicians here did sign a petition about the first of June asking Dr. Egan, in view of the new law allowing them to practice the first of July, to grant them a permit to practice until such time as could be set for their examination in compliance with the law. It being understood that they were to comply with the law as soon as it became effective.

I know of no better way to kill such fellows than to let them go ahead and kill themselves which they do in a very short time if we do not fight them and thereby furnish them free advertisement. If we go fighting them, they stand out before the public as martyrs to some great cause, and there are always lots of seemingly intelligent people who are ready to pick up with any fake that comes along, in fact they will go out of their way and put themselves to considerable trouble for the privilege of being thoroughly humbugged. They are not satisfied with anything practical, but want something mysterious that has no semblance of reason or common sense to it. They are the class of people that make it possible for these irregulars and quacks, Christian scientists, osteopaths, magnetic healers and all of that line of frauds to make a living, and if you attack their pets, they flare up and advertise and publish it as being one of the greatest institutions of the civilized world. Yet if you let them alone, treat the whole thing with silent contempt, let the public feel that such things do not molest you or in any way interfere with your work, they die a natural death in from three to six months and nobody is the loser except the set of fanatics that are determined to be humbugged some way or other.

The magnetic healing had about run its course here and was fast dying until the state board notified them that they must stop. Immediately that was published and heralded everywhere and they stood out as martyrs in a great cause and the public began to clamor for their services, and was blaming the medical profession for the great injustice that had been done this most wonderful discovery of the latter part of the 19th century.

It's not the ignorant class of people that

are imposed upon by these quacks but men high up in public life and people that ought to have more sense, but don't see fit to use it in the proper channel if they have it. It seems impossible to pass a law to shut them out, so long as people are hunting a chance to be gulled. They want it and are going to have it in some way and will fight all legislation against it, so I must say I am at a loss to know of any way to get rid of such things so quickly as to let them die a natural death. Not that I haven't the greatest respect for the regular medical profession, its workings, laws and teachings and believe in strict requirements of all persons entering it. But I have seen the course that Christian science, osteopathy and two or three more such fads have run in this town and neighborhood and when no attention was paid to them they quickly died out, but if we attempted to prosecute and stop them by legal method, it only made the matter worse and gave them a longer lease of life. Especially is this the case when it is done by one of the citizens of the town or where they bring some church or other society into direct connection with it as has been frequently done here. I think this thing will be dead, buried and forgotten inside of six months if we let it alone and don't furnish them free advertisement by jumping on them.

Respectfully,

W. J. Eddy.

Shelbyville, Ill.

State Items.

Dr. Gilliett has located at Allandale.

Dr. John J. Taylor, of Streator, writes from Morrison, Col., that he is rapidly improving in health.

Dr. B. H. Bean, of Cherry Valley, well known in Northern Illinois, committed suicide by taking poison.

Dr. Robert Laughlin Rea, a retired practitioner, died in Chicago July the 11th. Dr. Rea was at one time professor of anatomy in Rush Medical College, and in 1888 accepted the chair of surgery in the College of P. & S., from which he retired four years later.

Dr. and Mrs. Chas. E. Cook and their two sons, after a sojourn in Germany, are enjoying a tour in the Land of the Midnight sun. They will visit Switzerland and Paris before returning to their home in September. The Doctor is an active practitioner and member of the firm of E. P. and C. E. Cook, of Mendota.

It is with sorrow that we report the death of Dr. O. B. Ormsby, of Murphysboro. The members who attended the East St. Louis meeting will remember the doctor, as he took a very active part in the proceedings; especially will they recall his poetic effusion on "Malaria." The biography of the doctor will appear later.

Dr. J. W. Pettit, of Ottawa, who is delegated by this Society to arrange the excursion to the International Medical Congress to be held in Paris next year, informed us that he has now listed 160 physicians and their friends who have signified their intention of availing themselves of the opportunities offered for making an economical and delightful trip. He has partially arranged for an excursion in four sections, the time of each section varying from 38 to 45 days, prices ranging from $225 to $290, including every item of necessary expense from date of sailing from New York to return.

Persons joining this excursion will be entirely free from all responsibility for their comfort and safety. An experienced conductor will accompany each party, who will give all desired information as to places visited, look after the details of transportation, baggage, etc. Those desiring further information should address the Doctor.

Chicago News Items.

Dr. D. A. K. Steele is spending the summer in Europe.

Dr. E. W. Andrews has gone to Europe for three months.

Dr. F. Kreissl, of Chicago, sailed the 22d ult. for Europe.

Dr. D. R. Brower and Dr. N. Senn will spend the summer vacation in Hawaii.

Dr. W. A. Pusey left for Europe the first of July to be gone until the first of November.

Dr. William Lincoln Ballenger has resigned his position as professor of Otology in the Chicago Eye, Ear, Nose and Throat College.

Mrs. Mary Miller, an illegal "healer" of the Christian Science order, recently undertook to pray away an injury of the foot. The "claim" was too strong for her faith, however, and the patient, a twelve-year-old girl, conceived the idea of gangrene, which belief she communicated to a surgeon, who was finally called in and who amputated the leg. The woman accepted $51 for her divine offices. She was tried a few days ago before Judges Fitzgerald, Keady and Fleming in the court of special sessions in Brooklyn, was found guilty on the technical charge of practicing medicine without a license, and was sentenced to five months' imprisonment in the Kings County penitentiary.—*Record.*

Since July 1st the following members have paid dues:

H. R. Guthrie, Sparta.
C. M. Bowcock, Springfield.
R. D. Berry, Springfield.
S. C. Stanton, Chicago.
H. B. Buck, Springfield.
Hattie M. Owens, Princeton.
E. H. Butterfield, Ottawa.
B. M. Stephenson, Peoria.
Anna M. Braunsworth, Chicago.
J. F. Myers, Rock Island.
W. H. O'Malley, Kinsman.
E. L. Mayo, DeKalb.
W. R. Tyler, San Jose.
G. M. Peairs, Joliet.
J. W. Newcomer, Petersburg.
I. Newcomer, Petersburg.
State Board of Health, Springfield.
C. Du Hadway, Jerseyville.
T. W. Burrows, Ottawa.
W. F. Waugh, Chicago.
R. J. Mitchell, Girard.
A. F. Lemke, Chicago.
W. M. Staples, Grove City.
J. M. Wilcox, Clinton.
Stuart Johnstone, Chicago.

Ralph S. Porter, late assistant surgeon Second Illinois Volunteers, has been appointed assistant surgeon with rank of first lieutenant, and assigned to the Thirty-first Regiment at Ft. Thomas, Ky.

PRURITUS VULVÆ.

Dr. E. T. Beall (*Texas Medical News*) gives the following formula and says it has served him well in many cases in which measures suggested by other writers have failed:

℞ Quinine sulphate	20 gr.
Menthol	8 gr.
Carbolic acid	24 gr.
Citrine ointment	60 gr.
Ichthyol	150 gr.
Lanolin	360 gr.
Castor oil	600 gr.

M. To be applied freely after ablution of the vagina and vulva with hot water.

The first number of the *Illinois Medical Journal*, the new official organ of the Illinois State Medical Society, has been received. It is well printed, well edited, clear and attractive, and reflects credit on the Society and especially on the committee on publication.—*Journal A. M. A.*

County and District Societies.

JUNE MEETING OF THE MORGAN COUNTY SOCIETY.

[Abstracted from the June Journal of the Society.]

The meeting in Jacksonville was called to order by Pres. L. J. Harvey.

On motion of Dr. F. P. Norbury it was unanimously agreed to instruct the secretary to apply for membership in the American Medical Editors Association.

Members present: C. M. Vertrees, Murrayville; L. J. Harvey, Griggsville; R. H. Main, Barry; P. F. Gillett, Chicago; A. L. Adams, Josephine Milligan, F. P. Norbury, J. W. Hairgrove, Ralph B. Scott, A. F. Burnham, T. J. Pitner and Carl E. Black of Jacksonville.

Visitors: Helen M. Duncan, John Caldwell, G. F. Bechdolt and George Dinsmore of Jacksonville.

Applications for membership were received from Wm. G. Maness, of Nortonville; Helen M. Duncan, of Jacksonville; David W. Reid of Jacksonville; G. W. Bradley, of Waverly.

REPORTS OF CASES.

Dr. J. W. Hairgrove exhibited a patient, a boy ten years old, who had sustained a compound fracture of the radius, in which a fragment over three inches long and stripped of its periostium had to be removed. The patient seemed to be making good progress. He also reported two cases of operation for gall stones, with exhibition of specimens. One of the cases in which the gall bladder was very much indurated and packed with stones was interesting, from the fact that there had never been symptoms calling attention to the gall bladder, and the operation was made as an exploration.

Dr. F. P. Norbury reported a case of paralysis in a child.

Dr. A. L. Adams reported a case of operation on a girl 21 years old at the Institution for the Blind who had never been able to see, in which, after the formation of an artificial pupil, considerable vision was restored.

The interesting feature of the case was the impressions that were carried to her by means of the sense of sight. All things seemed much larger to her as seen than they really were. She also had no idea of distance, as made evident by reaching to touch a table that stood across the room.

Dr. R. H. Main, of Barry, reported case of a patient, aged 30 years, with ischiorectal abscess. After incising freely and draining, a probe introduced to near the tip of the coccyx, discovered a foreign body, which, on removal, proved to be a mass of matted hair, a dermoid. He also reported a case of sudden death in a child, aged five years, which had had diptheria, but in which there seemed to be no organic disease to explain the demise.

Dr. Carl E. Black read a communication on the paying of medical commissions. This practice was strongly condemned by the writer and several members speaking on the subject.

Dr. F. P. Norbury reported the meeting of the American Medical Association.

Dr. T. J. Pitner spoke of the meeting of the Illinois State Medical Society at Cairo, which was very successful and enjoyable. The meeting was well attended in general, but the attendance from the southern part of the state was not what had been expected nor did the practitioners in the southern part of the state respond with papers and communications as was hoped when it was decided to take the meeting to that city.

Dr. Carl E. Black reported briefly on the surgical and gynecological sections of the American Medical Association at Columbus, saying that it was surprising what a large proportion of papers dealt with affections involving the peritoneum from disorders in the pelvic and abdominal cavity. Undoubtedly the great advance of surgery at the present time is along these lines. These sections were always well attended and presented a large amount of interesting material. One feature of the American Medical Association is the free and ex-

haustive discussion indulged in by members.

Society adourned.

Carl E. Black,
Secretary.

BRAINARD DISTRICT SOCIETY.

The last regular meeting was held at Havana on April 27, 1899.

The following members were present: Drs. Coppel, Servoss, Diefenbacher and Hopping, of Havana; Katherine Miller and Barnett, of Lincoln; Cargill, of Mason City; Murphy, of Manito; Mudd, of Athens; Hurst, of Greenview; Hole, of Tallula, and Carl E. Black, of Jacksonville.

Papers were read by Drs. Hole, Servoss and Black.

A number of interesting cases were reported.

This being the time for election of officers, Dr. Coppel was elected president and the other officers were re-elected for the ensuing year.

ABOUT THE JOURNAL.

The committee on publication beg to return thanks to the many members of the society and profession who have expressed entire satisfaction with the appearance and contents of the July issue. Already the Journal is accomplishing the objects for which it was instituted. Old members are renewing their allegiance and new names are being daily added to the list of members. Every physician receiving this number may become a member by simply forwarding $3.00 to the treasurer, Dr. Geo. N. Kreider, Springfield. The society needs your help, brother, and you need the help and fellowship of the society.

Do not delay sending in your name and dues, but attend to this at once. Hereafter the treasurer will acknowledge receipt of money in the columns of the Journal only.

MEDICAL SOCIETIES.

STATE BOARD OF HEALTH.

C. B. Johnson, M. D., Champaign, President.

J. C. Sullivan, M. D., Cairo.

R. F. Bennett, M. D., Litchfield, Treasurer.

L. Adelsberger, M. D., Waterloo.

Florence W. Hunt, M. D., Chicago.

P. H. Wessel, M. D., Moline.

M. Meyerovitz, M. D., Chicago.

J. A. Egan, M. D., Springfield, Secretary and Executive Officer.

AESCULAPIAN SOCIETY OF THE WABASH VALLEY.

President, J. D. Mandeville, Philo.

Vice President, J. P. Worrell, Terre Haute, Ind.

Secretary and Treasurer, H. McKennan, Paris.

Chairman of Section One, L. J. Weir, West York.

Chairman of Section Two, J. C. Dodds, Tolono.

Chairman of Section Three, Z. T. Baum, Paris.

The next meeting will be held at Paris, Oct. 26, 1899.

BRAINARD DISTRICT MEDICAL SOCIETY.

President, Dr. F. M. Coppell, Havana.

Vice President, Dr. J. A. Barnett, Lincoln.

Secretary, Dr. Katharine Miller, Lincoln.

Treasurer, Dr. Charles C. Reed, Lincoln.

Meetings held the fourth Thursday of January, April, July and October. Next meeting at Mason City.

BUREAU COUNTY MEDICAL SOCIETY.

President, Dr. F. C. Robinson, Wyanet.

First Vice President, Dr. S. W. Hopkins, Walnut.

Second Vice President, Dr. B. F. Landis, Tiskilwa.

Second Treasurer, Dr. E. A. Owens, Princeton.

Meet second Thursday of November and May.

CHAMPAIGN COUNTY MEDICAL SOCIETY.

President, Dr. W. F. Burres, Sidney.

Vice President, Dr. J. C. Dodds, Tolono.

Secretary and Treasurer, Dr. John Laughlin, Rantoul.

Meets monthly at Champaign.

CHICAGO MEDICAL SOCIETY.

President, J. C. Hoag.
First Vice President, H. B. Favill.
Second Vice President, H. T. Patrick.
Treasurer, S. C. Plummer.
Secretary, A. R. Edwards.

CHICAGO PATHOLOGICAL SOCIETY.

President, Dr. Ludvig Hektoen.
Vice President, Dr. Emil Ries.
Treasurer, Dr. F. B. Earle.
Secretary, Dr. George H. Weaver.

CRAWFORD COUNTY MEDICAL SOCIETY.

President, Dr. W. H. Hoskinson, Trimbie.

Vice President, Dr. C. H. Voorhees, Hutsonville.

Treasurer, Dr. C. Barlow, Robinson.

Secretary, John Weir, West Union.

Meetings second Thursday in July, September, November, January, March and May.

DE WITT COUNTY MEDICAL SOCIETY.

President, D. W. Edmiston, M. D., Clinton.

Secretary, John A. Tyler, M. D., Clinton.

Censors, J. M. Wilcox, M. D., Clinton; A. L. Morris, M. D., Farmer City; A. E. Campbell, M. D., Clinton.

Quarterly meetings second Tuesday in January, April, July, October.

DISTRICT MEDICAL SOCIETY OF CENTRAL ILLINOIS.

President, Dr. Baxter Haynes, Hurricane.

First Vice President, Dr. M. W. Staples, Grove City.

Second Vice President, Dr. T. J. L. Catherwood, Shelbyville.

Secretary, Dr. J. N. Nelms, Taylorville.

Meets on last Tuesday in April and October at Pana.

GALVA DISTRICT MEDICAL SOCIETY.

President, W. A. Grove, Galva.

Vice President, M. T. Ward, Toulon.

Secretary and Treasurer, C. W. Hall, Kewanee.

Board of Census, F. A. Guthrie, Aledo; S. Thompson, Galva; H. N. Heflin, Kewanee.

Meets annually at Galva the first Tuesday of May.

HANCOCK COUNTY MEDICAL SOCIETY.

President, William Boaz, Carthage.
Secretary, R. L. Casburn, Carthage.
Treasurer, Jas. H. Callahan, Carthage.

LASALLE COUNTY MEDICAL SOCIETY.

President, William G. Putney, Serena.
Vice President, G. A. Dicus, Streator.
Secretary-Treasurer, E. H. Butterfield.
Meets annually.

MACOUPIN COUNTY MEDICAL SOCIETY.

President, J. S. Collins, Carlinville.

Vice President, F. C. Barto, Plainview.

Secretary, J. P. Matthews, Carlinville.

Meetings semi-annually, third Tuesday in April and October.

MORGAN COUNTY MEDICAL SOCIETY.

President, Dr. L. J. Harvey, Griggsville.

Vice President, Dr. J. W. Hairgrove, Jacksonville.

Treasurer, Dr. E. F. Baker, Jacksonville.

Secretary, Dr. Carl E. Black, Jacksonville.

Librarian, Dr. H. C. Campbell, Jacksonville.

Meetings held the second Tuesday of each month in Jacksonville.

NORTH CENTRAL ILLINOIS MEDICAL ASSOCIATION.

President, Dr. James Tweddale, Washburn.

First Vice President, Dr. L. G. Thompson, Lacon.

Treasurer and Secretary, Dr. William O. Ensign, Rutland.

Second Vice President, Dr. F. C. Robinson, Wyanet.

Assistant Secretary, Dr. G. A. Dicus, Streator.

Meets first Tuesday in December annually. Next place of meeting, Mendota.

NORTH CHICAGO MEDICAL SOCIETY.

President, Dr. Carl Wagner.

Vice President, Dr. A. Belcham Keyes.

Secretary and Treasurer, Dr. John N. Washington.

Meetings on the first and third Mondays of every month.

OTTAWA CITY MEDICAL SOCIETY.

President, Dr. J. C. Hatheway.

Vice President, Dr. E. H. Butterfield.

Secretary, Dr. William A. Pike.

Meets monthly.

PEORIA CITY MEDICAL SOCIETY.

President, Dr. Wm. T. Sloan, Peoria.

Secretary, Dr. H. M. Sedgewick, Peoria.

The next meeting of the society will be September next, and after that it will be continued monthly, as usual.

SHELBY COUNTY MEDICAL SOCIETY.

President, Dr. Wm. J. Eddy, Shelbyville.

Secretary, Dr. A. G. Mizell, Shelbyville.

Meets annually.

SOUTHERN ILLINOIS MEDICAL ASSOCIATION.

President, J. O. DeCourcy, M. D., E. St. Louis.

Secretary, C. G. Rayhill, M. D., Belleville.

Assistant Secretary, J. I. Hale, M. D., Alto Pass.

Treasurer, H. L. Gault, M. D., Sparta.

Meetings semi-annually.

THE CHICAGO ORTHOPEDIC SOCIETY.

Secretary, Dr. F. S. Coolidge.

The society meets monthly.

THE FOX RIVER VALLEY MEDICAL ASSOCIATION.

President, Dr. C. L. Smith, Aurora.

Vice President, Dr. J. E. Bumstead, Dundee.

Secretary-Treasurer, Dr. M. M. Robbins, Aurora.

Meets in May at Elgin and in November at Aurora.

THE PHYSICIAN'S CLUB, CHICAGO.

President, Dr. Wm. Allen Pusey.

Treasurer, Dr. L. Harrison Mettler.

Secretary, Dr. Wm. H. Wilder.

THE WINNEBAGO COUNTY MEDICAL SOCIETY.

President, Dr. George L. Winn, Rockford.

Vice President, Dr. T. N. Miller, Rockford.

Secretary and Treasurer, Dr. J. E. Allaben, Rockford.

Annual meeting on the second Tuesday of January of each year and other meetings monthly. All meetings held at Rockford.

TRI-COUNTY MEDICAL SOCIETY.

President, Dr. M. S. Brown, Danville.

Vice President, Dr. B. S. Euans, Watseka.

Secretary-Treasurer, Dr. Leroy Jones, Hoopeston.

Meets first Tuesday in June and December.

WARREN COUNTY MEDICAL SOCIETY.

President, Dr. E. J. Blair, Monmouth.

First Vice President, Dr. E. L. Mitchell, Roseville.

Second Vice President, Dr. J. W. Standley, Alexis.

Secretary, Dr. A. G. Patton, Monmouth.

Treasurer, Miss A. R. Nichol, Monmouth.

At the last meeting held in Monmouth, June 16 ult., the constitution was changed to provide for two meetings a year viz: the first Friday in May and November.

Next Annual Meeting

Will be held in Springfield the Third Tuesday of May

AND TWO SUCCEEDING DAYS (Viz: 22d, 23d and 24th), 1900.

Officers and Committees for the Year 1899-1900.

OFFICERS:

HAROLD N. MOYER, Chicago.....PRESIDENT
J. T. McANALLY, Carbondale.....FIRST VICE PRESIDENT
WELLER VAN-HOOK, Chicago.....SECOND VICE PRESIDENT
EDMUND W. WEIS, Ottawa.....PERMANENT SECRETARY
B. B. GRIFFITH, Springfield.....ASSISTANT SECRETARY
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